TRANSPORTATION

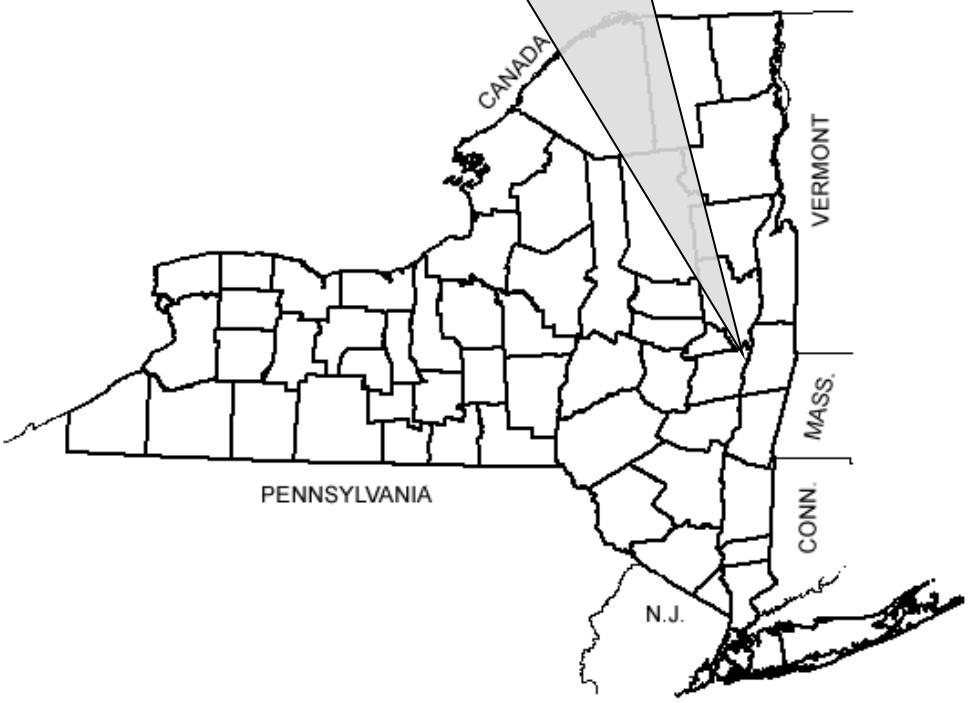
PROJECT REPORT

FINAL DESIGN REPORT / ENVIRONMENTAL IMPACT STATEMENT

Appendix H – Phase I/II Archeological Survey Reports

August 2014

Highway Project
P.I.N. 1721.51
BINs: 1033141 / 1033142
Interstate 87 (I-87) Exit 4 Access Improvements
Albany County



U.S. Department of Transportation Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
ANDREW M. CUOMO, Governor JOAN MCDONALD, Commissioner

List of Appendix Documents:

- **Draft Report: Phase I Archeological Investigation**
  Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121
  December 2011
  Status: *REDACTED*

- **Phase II Archeological Site Examination**
  The Engel Farm Precontact Archeological Site – A00104.000605
  Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121
  October 2012
  Status: *REDACTED*

- **Addendum Phase IB Archeological Field Reconnaissance**
  Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121
  February 2013
  Status: *REDACTED*

- **Wetland Mitigation Area Site 1 Archeological Screening and Letter Report**
  PIN 1721.51.121, I-87 Exit 4 Airport Connector
  July 2013
  Status: *REDACTED*

- **Phase IB Archeological Field Reconnaissance**
  Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121
  Person Property Wetland Mitigation
  October 2013
  Status: *REDACTED*

- **Finding Document**
  Status: *Attachments REDACTED*

- **Memorandum of Agreement (MOA)**

- **Agency Correspondence**
  01/16/2014: FHWA Adverse Effect determination
  01/16/2014: FHWA documentation of tribal coordination
  12/09/2013: SHPO concurrence with finding of Adverse Effect
  09/18/2013: NYSDOT R1 Geotechnical Memo – Site Evaluation of Proposed Embankment Locations for Ramps A and C (*Attachments REDACTED*)

Interstate 87 (I-87) Exit 4 Access Improvements
PIN 1721.51.121
Finding Document

REVISED FINDING DOCUMENTATION
PIN 1721.51.121
Interstate 87, Exit 3 / 4
Airport Access Improvements
Town of Colonie, Albany County
State of New York

NY SHPO Project Review ID: 07PR05536

December 4, 2013

1. Project Description

The Project: Description and History

The proposed Federally-funded project is a significant long-term capital investment linking two of the major transportation facilities of New York State's Albany Capital District: Interstate 87 and the Albany International Airport.

The project area is located in the Town of Colonie, which is adjacent to the City of Albany. The general topography is flat to gently rolling. Along Wolf Road, to the east of Interstate 87 (I-87), is a densely developed suburban commercial area, characterized by a mix of office buildings, retail plazas, restaurants, hotels, and gas stations, each with individual parking lots. Further east of Wolf Road, outside of the project area, is typical suburban residential development, primarily single-family homes with a scattering of multi-family homes and low-rise apartment complexes. The west side of I-87, along Albany-Shaker Road, is rolling grass, scrub and farm fields. This portion of the project area was farmed for generations by the Engel family, although the Engel family discontinued their farming business in 2010.

The project proposes to improve access between Interstate 87 and the Albany International Airport, and between I-87 and Wolf Road. Safety and traffic operations will be improved at Exit 4. The project will be designed to not adversely impact I-87 mainline operations between Exit 2 and Exit 5 and to allow for future long-term improvements to I-87. Improving system connectivity between the existing pedestrian and bicycle facilities on Wolf Road and the facilities constructed as part of the Albany/Watervliet-Shaker Road project will also be considered during the evaluation of design alternatives.

Starting in the late 1970's and continuing into the early 1990's, a number of studies have looked at existing and future traffic operations in the project area. Each of these studies concluded that the existing I-87 interchanges would have difficulty handling the growth in traffic caused by expected increases in airport activity and continued economic development in the area without improvement to I-87 access. Based on these conclusions, the proposed project was added to the New York State Department of Transportation (NYSDOT) capital program.

In 2000, NYSDOT initiated the project scoping process to develop project needs and objectives, and evaluate project issues, elements and initiatives which would have an effect on project scope, cost and schedule. This process included traffic data collection, conceptual alternative development, and development of over 50 conceptual design alternatives. Over the following 12 years, additional traffic studies and growth forecasts, further alternatives analysis, and input from project stakeholders have gradually winnowed the wide range of alternatives down to two alternatives: the Diamond Alternative and the Flyover Alternative.

Through 2012 and 2013, both the Diamond Alternative and Flyover Alternative were analyzed in great detail. When these final two alternatives were compared against each other, the Diamond Alternative proposed greater impacts to wetlands, more real-estate acquisition, the relocation of one residence and two active businesses, and overall higher construction costs and long-term maintenance costs than the

Flyover Alternative. Additionally, since the Diamond Alternative is not the least environmentally-damaging reasonable alternative, NYSDOT faced significant challenges to obtaining permits for construction from the regulatory agencies involved, the New York State Department of Conservation and the U. S. Army Corps of Engineers. Ultimately, in November 2013, based on a balanced consideration of the impacts of these two alternatives, NYSDOT and the Federal Highway Administration (FHWA) jointly concluded that the Diamond Alternative is not a reasonable alternative, and the Diamond Alternative was dismissed from further consideration.

Why is the Project Needed?

The proposed transportation project has been initiated to address the following needs within the Interstate 87 Exit 4 area:

Intersection Operating Conditions

The project is necessary to provide improved access between Interstate 87 (I-87), Wolf Road, and the Albany International Airport. Within the project study area, six of the nine intersections evaluated have operational delays during the peak hours. These poor operations will continue to deteriorate in the future.

Safety

The project is necessary to address safety concerns within the project study area. Safety concerns include existing I-87 Northbound exit ramp queuing back onto I-87, and operational and weave issues at the I-87 Southbound Service Road between Exit 5 and Exit 4. Three intersections exceed the statewide average crash rate for similar transportation facilities.

Structural Deficiencies

The existing bridges carrying Interstate 87 over Albany-Shaker Road (Bridge Identification Numbers 1033141 and 1033142) are over 50 years old. These bridges are the only remaining bridges on Interstate 87 in Albany County dating from the original construction of the Interstate. The sufficiency ratings and bridge inspection for the bridges indicate that the bridges' structural deficiencies need to be addressed. NYSDOT has installed temporary steel supports under the existing piers to partially address the deficient pier conditions.

Access

The existing access limits the movement of goods between Interstate 87, the Albany International Airport, and the commercial corridor of Wolf Road, as well as the mobility of Park n' Ride and Airport shuttles between Wolf Road, Old Wolf Road, and the airport.

Land Use and Economic Growth

The existing operational delays at intersections in the Exit 4 area inhibit mobility within the project area.

Objectives of the Project

The following Primary Project Objectives were developed to recognize the overall goal of improving mobility and economic development for the Capital District.

(1) Improve access between I-87 and the Albany International Airport without precluding future, long-term I-87 mainline improvements, and without impacting I-87 mainline operations between Exit 2 and Exit 5.
(2) Improve access between I-87 and Wolf Road without precluding future, long-term I-87 mainline improvements, and without impacting I-87 mainline operations between Exit 2 and Exit 5.
(3) Improve intersection operating conditions in the existing Exit 4 area and address safety concerns in the areas that exceed the statewide average accident crash rate for similar transportation facilities.
(4) Eliminate the structural deficiencies associated with the I-87 northbound and southbound bridges over Albany-Shaker Road by providing bridges with a 50-year minimum service life.

In addition to the Primary Project Objectives, the following Secondary Objective was considered during the evaluation of design alternatives.

(1) Improve system connectivity between the existing pedestrian/bicycle facilities on Wolf Road and the facilities constructed as part of the Albany/Watervliet-Shaker Road project.

The following considerations are also included in the evaluation of alternatives.

(1) Impacts to existing sensitive environmental and cultural features in the project area.
(2) Impacts to active agricultural land in the project area.
(3) Impacts to viable commercial enterprises and other social and economic features in the project area.
(4) A gateway effect between I-87 and the Albany International Airport is desired.
(5) A pedestrian-friendly environment within the project area is desired.
(6) Application of transportation system management, transportation demand management, and transit enhancements.
(7) Project benefits versus cost.

Alternative Analysis

More than 50 alternatives were evaluated on a conceptual level for the proposed project. During the long process of preliminary alternative analysis, many factors were considered, including:

- the impacts to the long-operating Engel Farm;
- potential impacts to the forested wetlands toward Ann Lee Pond;
- locations of, and potential impacts to, vernal pools and wet meadows;
- locations of, and potential impacts to, known historic sites and structures;
- traffic patterns, traffic levels and forecasts;
- interference with the Albany International Airport's Runway Protection Zone as defined by the Federal Aviation Administration (FAA); and
- Interstate design parameters for I-87 (the Northway.)

In addition to comparison of the alternatives to the purpose and need statement, a review of the alternatives by the project stakeholders resulted in identification of one feasible alternative for consideration in the Environmental Impact Statement (EIS). This alternative, along with the No-Build Alternative, is described below.

No-Build Alternative

This alternative provides for the continued maintenance of the existing highway by the NYSDOT maintenance forces with no capital funds being expended.

Alternative 1: Flyover Alternative

The Flyover Alternative proposes construction of new ramps that will "fly over" Interstate 87 to connect Interstate 87, Wolf Road and Albany-Shaker Road. The area of potential effects (APE) associated with the Flyover Alternative includes the area in which direct and indirect effects may occur as a result of proposed improvements including:

- construction of new ramps to connect I-87 northbound and southbound to Albany-Shaker Road approximately 1000 ft west of the Albany-Shaker Road / Old Wolf Road intersection, and
- construction of a new ramp to connect Albany-Shaker Road, approximately 1000 ft west of the Albany-Shaker Road / Old Wolf Road intersection, to I-87 southbound.
- replacement of the I-87 bridges over Albany- Shaker Road;
- removal of the existing Exit 4 southbound Exit Ramp;
- removal of the existing southbound Collector-Distributor road between Exit 5 and Exit 4;
- removal of the Exit 4 southbound Entrance Ramp;
- replacement of the existing Exit 5 southbound Entrance Ramp;
- pavement widening on I-87 northbound to construct an auxiliary lane between the existing Exit 4 northbound Exit Ramp and Exit 5 northbound Exit Ramp;
- pavement widening and restriping for additional turn lanes and medians on Albany-Shaker Road; and
- restriping on the existing Exit 4 northbound Exit Ramp.

The Area of Potential Effect (APE) for the Flyover Alternative is cross-shaped, with the southwest-to-northeast arm following Interstate 87, and the southeast-to-northwest arm following Albany-Shaker Road. The proposed flyover ramps result in a "bulge" to the APE on the east side of I-87, approximately 2,500 ft south of the I-87/Albany-Shaker Road bridges. On the west side of I-87, the ramps make a "jug handle" shaped section of project area, where the exit roadway extends southwest from Albany-Shaker Road and then curves sharply south for the flyover bridge over I-87. ((Please refer to Figure 3A attached.)

Along Interstate 87, the southwest terminus is approximately 1,800 ft north of the bridges carrying I-87 over Sand Creek Road. The I-87 northeast terminus is the bridges carrying I-87 over NYS Route 155, Watervliet-Shaker Road. The length along I-87 is approximately 1.8 miles. At the approximate midpoint of the I-87 arm are the bridges carrying I-87 over Albany-Shaker Road, Bridge Identification Numbers 1033141 and 1033142; these bridges are at the end of their service life, and will be replaced under Phase 1 of this project. The Albany-Shaker Road portion of the project area extends a distance of approximately 1.3 miles. The southeast terminus is approximately 600 feet southeast of the I-87/Albany-Shaker Road bridges, ending near the Albany-Shaker Road – Old Maxwell Road intersection. The APE follows Albany-Shaker Road, extending approximately 1.2 miles northwest of I-87/Albany-Shaker Road bridges, ending at the south entrance to Albany International Airport. The width of the APE along both I-87 and Albany-Shaker Road generally follows the highway boundaries of both travelways; this width is approximately 500 ft along I-87, and varies in width between 125 ft and 300 ft along Albany-Shaker Road. At the northeast end of the project area, the APE includes the Collector-Distributor Road which parallels I-87 to the west, which further widens the APE to approximately 800 ft in this northeastern-most section.

The proposed ramps which connect Albany-Shaker Road and I-87 intersect Albany-Shaker Road approximately 1,100 ft west of the I-87/Albany-Shaker Road bridges. The combined ramps proceed southwesterly at a rough parallel to I-87 for approximately 1000 ft, and then the ramps curve strongly south, with the center ramp (Ramp A) crossing I-87 on the flyover bridge, the southern ramp (Ramp B) curving southward to meet I-87 southbound, and the northern ramp (Ramp A) continuing to curve in a half-circle to meet I-87 southbound. The width of the APE for the ramps is approximately 400 ft at the Albany-Shaker Road intersection, and flares wider as the ramps diverge as they approach I-87 to a width of approximately 1,200 ft along I-87. In late 2012, the proposed alignment of the ramps and their connection with Albany-Shaker Road on the west side of I-87 was altered, in response to concerns from the Federal Aviation Administration (FAA) that the connector road was located within the FAA's "Runway Protection Zone" for Albany International Airport. This alteration shifted the APE for the ramps approximately 200' eastward toward I-87. On the east side of I-87, where Ramp A (middle ramp leading to flyover bridge) connects to I-87, the APE varies in width, expanding from the typical 500 ft width of I-87 to approximately 800 ft at the widest point of the "bulge." The medians of I-87 were included in the APE, as well as the area between I-87 southbound lanes and the Collector-Distributor Road.

Also included in the APE is a proposed wetland mitigation site located on the E.T. Person parcel. The Person parcel is located at the end of Sunset Boulevard, northwest of I-87, and borders Shakers Creek.

The Area of Potential Effect was determined by the area needed for construction of the Flyover Alternative, including embankment at a sufficient height with appropriate side-slope grades, to support the flyover and exit/entrance ramps, area for staging material, equipment and personnel, and area for creation of required compensatory wetlands.

The Flyover Alternative improves operating conditions at the majority of the intersections in the I-87 Exit 4 area and reduces the travel time for major routes by 25%. This alternative also addresses safety concerns by diverting traffic away from the existing intersections that have crash rates which exceed the statewide average for similar facilities.

29.70 acres of right-of-way acquisition is necessary from 15 parcels under the Flyover Alternative. The proposed acquisitions associated with the Flyover Alternative predominantly affect properties on Albany-Shaker Road. Five (5) of the impacted parcels are owned by the Albany County Airport Authority and are identified for uses including residential, parking lot, commercial, air transport and vacant farmland. 16.60 acres of the total 29.70 acres will be acquired strictly for wetland preservation, restoration, and creation

purposes. One residential property on Albany-Shaker Road will be acquired in full, and will require relocation.

The Flyover Alternative will affect a total of 1.96 acres of wetlands, comprised of 1.83 acres of shallow emergent marsh and wet meadow, and 0.13 acres of palustrine forest. Eight (8) of the 17 wetland areas that would be affected are directly influenced by the I-87 corridor, and, although they inherently provide some level of wildlife habitat, they primarily provide drainage for the existent roadway network. Impacts to the remaining wetland areas bear more significance, because they not only provide wildlife habitat and other functions and services, but are contiguous with or part of the greater Shaker Creek/Ann Lee Pond wetland/stream complex. Based on typically accepted replacement ratio guidance from USACE, a total of 2.09 acres of compensatory wetland creation is proposed is required for the Flyover Alternative, broken down as follows: emergent marsh and wet meadow impact = 1.83 acres at 1:1 replacement = 1.83 acres compensation, and forested wetland impact = 0.13 acres at 2:1 replacement = 0.26 acres compensation.

To address these compensatory wetland requirements, NYSDOT has been working with Mr. E. Person, owner of a parcel located at 200 Sunset Boulevard. NYSDOT proposes to acquire approximately 16.60 acres of this total 20.80-acre parcel (200 Sunset Blvd), in the areas outside of the existing developed parking areas, for preservation and wetland enhancement, restoration and/or creation. Acquisition of the 16.60 acres parcel would protect existing wetlands and Shaker Creek from commercial and/or residential development pressure. Additionally, within the 16.60 acres that NYSDOT acquires, NYSDOT would restore or create 2.10 acres of wetlands. The areas of potential wetland enhancement, restoration and/or creation are located around the periphery of the existing commercial business lot at 200 Sunset Blvd. The remaining developed area of the parcel (4.20 acres) would be retained by Mr. Person so he can continue his current level of business functions.

In conclusion, the environmental impacts of the Flyover Alternative include:

- 29.70 acres of right-of-way acquisition from 15 properties.
- 1.96 acres of wetland impacts, requiring 2.09 acres of compensatory wetland creation. .
- 1 archaeological site impacted, the Engel Farm Precontact Archaeological Site.

Total estimated cost of the Flyover Alternative is $47.51 million.

Please see the chart on the following page for a summary of the Flyover Alternative.

Proposed Phases of the Project

The project will be split into two separate phases for construction.

Project Phase 1 proposes the replacement of the existing bridges carrying Interstate 87 over Albany-Shaker Road (Bridge Identification Numbers 1033141 and 1033142). The replacement of the bridges cannot be separated out from the larger project since the design of the I-87 over Albany-Shaker Road bridges is directly influenced by the overall plan for the interchange reconstruction. The Phase 1 construction work is tentatively scheduled for letting in 2014 and construction in late 2014.

Project Phase 2 proposes the new interchange construction, including the acquisition of real property along Wolf and Albany-Shaker Road and throughout the project area, and construction of compensatory mitigation wetlands. The Phase 2 construction work is tentatively scheduled for letting in Spring 2019 and construction in 2019.

2. Steps Taken to Identify Historic Properties

Cultural Resources Surveys and investigations have been conducted for this project by the New York State Museum in Albany, NY, and by Hartgen Archaeological Associates, Inc., in Rensselaer, NY. Four reports have been prepared in the period of 2000 through 2013. All of the reports were submitted to the New York State Office of Parks, Recreation, and Historic Preservation (NYS OPRHP), functioning as the New York State Historic Preservation Office (SHPO) for the Section 106 review process. Prior to 2001, the SHPO provided correspondence regarding review of the reports, which include agreement or disagreement with the findings and recommendations of the submission, including eligibility for the National Register of Historic Places. In accordance with new procedures adopted in 2001, failure of the SHPO to respond after 45 days constitutes SHPO's agreement with the findings and recommendations of the submittal.

A **Cultural Resources Pre-Reconnaissance Survey Report** was performed by the New York State Museum for the subject project. The title of the report is *Cultural Resources Pre-Reconnaissance Survey, Program Year 2000/2001, of PIN 1721.51.121, New Construction of a Connector Exit between I-87 and Wolf Road & I-87 and the Airport with Potential Modifications to Exit 4 (BIN 1-03314-1, 1-03314-2, 1-03455-1 & 1-03455-2), Town of Colonie (MCD 00104), Albany, New York,* and it was authored by Benjamin A. Kahn, BA and Joseph Sopko, MA. The report was issued in October 2000.

The New York State Historic Preservation Office (SHPO) responded by letter dated November 20, 2000, stating that "the SHPO approves the Pre-Reconnaissance Survey Report and concurs with its recommendations."

A **Phase I Archaeological Investigation** was conducted by Hartgen Archaeological Associates, Inc. for the subject project. The title of the report is *Phase I Archaeological Investigation, Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121. Interstate 87 (Northway), Wolf Road, Albany-Shaker Road, Town of Colonie, Albany County, New York.* It was authored by Corey McQuinn. The report was issued in December 2011.

No response was received from SHPO.

A **Phase II Archaeological Site Examination** was conducted by Hartgen Archaeological Associates, Inc. for the subject project. The title of the report is *Phase II Archaeological Site Examination, the Engel Farm Precontact Archaeological Site – A00104.000605, Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121. Interstate 87, Town of Colonie, Albany County, New York.* It was authored by Corey McQuinn. The report was issued in October 2012.

No response was received from SHPO.

A **Phase IB Archaeological Field Reconnaissance** was conducted by Hartgen Archaeological Associates, Inc. for the subject project. The title of the report is *Phase IB Archaeological Field Reconnaissance, Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121. Person Property Wetland Mitigation, Sunset Boulevard, Town of Colonie, Albany County, New York.* It was authored by Lori J. Blair and Corey McQuinn. The report was issued in October 2013..

This report is submitted for concurrent review with this Revised Finding Documentation.

Flyover Alternative
Summary of Costs, Benefits, and Impacts

Criteria	Flyover Alternative
Are the Project Goals and Objectives Met?	
1. Improve access between I-87 and the Albany International Airport without precluding future, long-term I-87 mainline improvements, and without impacting I-87 mainline operations between Exit 2 and Exit 5.	Yes
2. Improve access between I-87 and Wolf Road without precluding future, long-term I-87 mainline improvements, and without impacting I-87 mainline operations between Exit 2 and Exit 5.	Yes
3. Improve intersection operating conditions in the existing Exit 4 area and address safety concerns in the areas that exceed the statewide average accident crash rate for similar transportation facilities.	Yes
4. Eliminate the structural deficiencies associated with the I-87 northbound and southbound bridges over Albany-Shaker Road by providing bridges with a 50-year minimum service life.	Yes
5. Improve system connectivity between the existing pedestrian/bicycle facilities on Wolf Road and the facilities constructed as part of the Albany/Watervliet-Shaker Road project.	Yes
Cost	
Cost in 2013 dollars [millions]	
Total Project Cost – Phase 1, Replacement of I-87 over Albany-Shaker Road Bridges	$ 13.53
Right-Of-Way Costs – Phase 1, Replacement of I-87 over Albany-Shaker Road Bridges	$ 0.00
Total Project Cost – Phase 2, New Interchange Construction	$ 31.38
Right-Of-Way Costs – Phase 2, New Interchange Construction	$ 2.60
Total Cost	**$ 47.51**
Qualitative Benefits	
Improved Access Between I-87 and the airport	Yes
Improved Access Between I-87 and Wolf Road	Yes
Improved pedestrian/bicycle system connectivity	Yes
Environmental , Social, and Economic Impacts	
Number of Real Property Parcels Affected	15 parcels
Right-of-Way Land Area Required (acres)	29.70 acres
Displacements and Relocations	1(Residential)
Potential Loss of Jobs (due to displacements)	No
Loss of Tax Base (acres of privately owned land)	29.70 acres
Impacts to Historic Resources	1 site affected, the Engel Farm Precontact Archaeological Site
Direct Wetland Impacts (acres)	1.96 acres
Wetland Mitigation Area Required (acres)	2.09 acres
Wetland Mitigation Area Location	16.60 Acres of the E. T. Person parcel at 200 Sunset Blvd, of which 2.10 acres will include restored or created wetlands.
Stream Impacts (linear feet)	474 linear feet
Open Water Impacts (acres)	0.13 acres

3. Evaluation of Project Impact on Identified Historic Properties

Historic Properties that may be Affected by the Project

Historic Properties

Wolf-Kemp Cemetery Historic Site. The cemetery is located within an agricultural field about 61 m (200 ft) north of the southbound lanes of I-87. The cemetery occupies a low knoll; it is visible from the highway between Albany-Shaker Road to the northeast and Sand Creek Road to the southwest. This cemetery is associated with the Wolf, Kemp, and Case families, who owned the farmland and lived in a farmstead on Wolf Road where the Homewood Suites Hotel is now located. The Wolf-Kemp cemetery has headstones dating to as early as 1811, possibly earlier, through the last quarter of the nineteenth century, indicating graves of at least 17 individuals. SHPO has indicated that the Wolf-Kemp Cemetery is eligible for the National Register of Historic Places. SHPO has also stated that due to the assumed presence of human remains, SHPO strongly recommends that the Wolf-Kemp Cemetery is avoided.

Archaeological Sites

Engel Farm Precontact Archaeological Site. The site is located within an agricultural field north-west of I-87 and about 107 m (350 ft) east of the Wolf-Kemp Cemetery. Material remains revealed through Phase I and Phase II testing consist of fire-cracked rock and chert flakes, some utilized or scrapers, and debitage. The site is identified as a camp/workshop. As a result of Phase I and Phase II archaeological investigations, the Engel Farm site has been determined eligible for the National Register of Historic Places under Criterion D, as it likely bears additional information valuable to our understanding of Archaic period sites in the Northeast, and more specifically, the pre-contact use of the Pine Bush.

Four other potentially eligible historic archaeological sites, the Desmond Historic Archaeological Site, Exit 5 North Historic Archaeological Site, Exit 5 South Historic Archaeological Site, and the Stickley Historic Archaeological Site were identified in the Phase I Archaeological investigation (2011). All four sites are located within the Area of Potential Effect of the Flyover Alternative.

Desmond Historic Archaeological Site. The Desmond Site is in front of the house adjacent to the Desmond Hotel on Albany-Shaker Road, approximately 200 ft west of the I-87/Albany-Shaker Road Bridges. The site appears to be a sheet midden deeply buried by modern fill; the artifacts found included bottle glass, whiteware, brick, nails, and window glass. This section of APE was included to allow for potential widening of Albany-Shaker Road. However, design refinements have indicated that any widening in this location will not extend far enough to affect the Desmond Site; therefore, the Desmond Site will be avoided.

Exit 5 North Historic Archaeological Site and Exit 5 South Historic Archaeological Site. Both Exit 5 sites are located in the highway median between the I-87 southbound lanes and the Collector-Distributor road which extends from Exit 5 to connect with Old Wolf Road. Based on historic maps, both Exit 5 sites are in previously unsettled areas. Little is known about the sites, although the artifacts recovered from each – ceramic fragments, faunal bones, and shells - suggest that the sites may be surface dumps associated with neighboring farms. No road construction is proposed for either location, although the median may be used for either construction staging and/or compensatory wetland mitigation. If the space is used for either purpose, the sites will be fenced with Temporary Plastic Barrier Fence and thus avoided.

Stickley Historic Archaeological Site. The Stickley Site is in front of the Stickley Furniture store at 151 Wolf Road, on the east side of Wolf Road and south of the Wolf Road-Metro Park Road intersection. The Stickley site is associated with a farmhouse that is documented on historic maps dating from the 1860s through the 1950s; the artifact assemblage consisted of faunal bones, late 19th century ceramics, and vessel glass. The Stickley Site is just barely within the APE for the Diamond Alternative, which has been dismissed. The Stickley Site does not fall within the APE for the Flyover Alternative; therefore, the Stickley Site will be avoided.

Based on the feasible project alternative, the Stickley, Desmond, Exit 5 North, and Exit 5 South sites will all be avoided. Since these four sites will be avoided, there was no additional investigation to assess eligibility.

Flyover Alternative – Evaluation of Impacts to Historic Properties

The flyover alternative as designed has elevated ramps, founded on embankment fill, which pass through the location of the Engel Farm Precontact Archaeological Site. NYSDOT, in consultation with the Federal Highway Administration (FHWA), New York State Historic Preservation Office (SHPO), the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe, and the Delaware Tribe, has explored several strategies to avoid, minimize, or mitigate potential impacts to the Engel Farm Precontact Archaeological Site.

- **Avoidance Measures.**
  Redesign Ramp Placement. Moving the ramps of the Flyover Alternative away from the Engel Farm Precontact Archaeological Site was investigated. However, many factors combined to make moving the ramps entirely out of the Site impossible. Shifting the ramps northward along I-87 towards the Desmond Hotel would impact the parking area of the Desmond Hotel, which would require acquisition of property from the Desmond Hotel. The projected increased highway noise from the moving the highway ramps nearer the Desmond Hotel reached unacceptable levels. Shifting the ramp complex southward would require real property acquisitions along Computer Drive West, which parallels I-87 to the east, between I-87 and Wolf Road. Several existing commercial properties would need to be acquired completely, and businesses relocated. This would cause a negative social and economic impact. Additionally, shifting the ramps far enough south along I-87 to avoid the Site resulted in impacts to the Wolf-Kemp Cemetery. Shifting the ramps westward is limited by the Federal Aviation Administration's "Runway Protection Zone" for the Albany International Airport; furthermore, westward ramp alignment adjustment would not avoid the Site. For these reasons, NYSDOT concludes that shifting the ramp alignments as an avoidance option is not feasible or practical.

  Bridge over Site. The Flyover Alternative has three ramps which converge and touch down in the general location of the Engel Farm Site; these ramps are referred to (from north to south) Ramps C, A, and B. In March 2013, NYSDOT first proposed bridging only a portion of the Engel Farm Site (Locus 1), with a bridge on Ramp C (northern ramp). However, following the Section 106 consultation meeting on May 14, 2013, NYSDOT explored bridging the entire Engel Farm Precontact Archaeological Site, which requires two bridges: one on Ramp A (middle ramp) and the second on Ramp C (northern ramp) to span the entirety of the Engel Farm Site. Ramp B (southern ramp) would be relocated further south to avoid conflict with the southern edge of the Engel Farm Site, although the ramp location is limited due to the presence of the Wolf-Kemp Cemetery Historic Site. A retaining wall may be placed along part of Ramp C near Engel Farm Site's southern boundary.

  NYSDOT explored designing the bridges using both curved and straight steel girders to support the ramp's road surface. The longest bridge, the Ramp C bridge, would span the entire Site with a buffer of 15 feet from the west bridge abutment to the site boundary to account for footing excavation, and a buffer of 35 feet from the east bridge abutment to allow for footing excavation and positive surface drainage away from the Site. Accordingly, the Ramp C bridge requires a girder length of 250 feet to span the entire distance. The 250 ft span length is beyond the practical design length for a single-span bridge, so constructing a single-span bridge of this length presents significant engineering issues. While the girder can be fabricated, it would likely have to be transported in at least 3 sections. The 3 sections of girder would have to be spliced in the field; this requires temporarily supporting the girder during splicing with a steel frame and footing system. This temporary footing system must be level and designed to support the dead weight of the girder. The temporary footing system would require excavation within the boundaries of the Engel Farm Precontact Archaeological Site, causing damage or destruction to buried soils containing cultural deposits. In addition to the fabrication and construction challenges, the deflection of the bridge would not meet allowable standards based on driver comfort. Essentially, the bridge would feel "bouncy" and "unstable" to the driver.

Due to these complexities of bridging the Engel Farm Precontact Archaeological Site in its entirety, NYSDOT concludes that bridging the Site is not feasible or practical. Furthermore, constructing a bridge over the site would not avoid impacts due to the requirement for a temporary footing system.

- **Minimization Measures.**
  Fill over Site after Identifying Original Ground Surface. This option proposed to cover the original ground surface of the Engel Farm Site with a geotextile fabric to delineate the surface location, and then place embankment fill over the geotextile to construct the earthwork support for Ramps C, A, and B. Also, in order to carry rainwater and runoff away from the Engel Farm Site, a swale would be graded in the center of the Engel Farm Site, but above the original ground surface in the embankment fill. The swale would direct water to a culvert running underneath Ramp C, to divert water away from the Site.

  NYSDOT also proposed the following protective measures to be utilized during the "Fill over Site" construction. Prior to the placement of embankment fill, Temporary Plastic Barrier Fence would be installed to delineate edges of the Engel Farm Site; the fence is intended to improve visibility of the site boundary, and to help prevent construction personnel and equipment from entering the Site accidentally. A conceptual plan for this option is shown in Figures 2 and 2A.

  NYSDOT's preliminary geotechnical evaluation of the location indicated that the area consists of historically farmed soil overgrown by a meadow mat and an area of low woods, adjacent to standing water. The historically farmed soil indicates the likelihood of organic material in the soil to an unknown depth. Organic material in the soil contributes to long-term settling of the structure constructed upon embankment fill over the native soil.

  In September 2013, at FHWA's request, NYSDOT completed a formal geotechnical evaluation of the soils in the area proposed for the embankments that would support Ramps A, B, and C under the Flyover Alternative. The geotechnical evaluation confirmed that the upper level of the soil contains plant material and other organic material. Further, the geotechnical evaluation stated that the top one foot (1') of soil must be removed prior to placement of the embankment fill. It is standard engineering practice to remove plant material and soil containing organic material before building an embankment, since an embankment constructed atop plant material and organic material continuously settles over time. Additionally, movement of equipment is likely to cause rutting and displacement of up to another ten inches (10") of subsoil during the fill placement.

  In consultation with SHPO and FHWA, NYSDOT concluded that the proposed minimization measures would not ensure protection of the site from impacts during construction due to the removal and/or disturbance of the upper 1' – 10" of soil, or from potential physical alterations to site conditions after construction.

4. Basis for Recommended Project Findings

The Flyover Alternative proposes the construction of ramps supported by embankment fill in the location of the Engel Farm Precontact Archaeological Site, which causes an unavoidable impact to the Site due to site disturbance from construction. The Flyover Alternative avoids impact to the Wolf-Kemp Cemetery Historic Site. The New York State Department of Transportation has applied the Criteria of Adverse Effect (36 CFR Part 800.5(a)) and determined that the Flyover Alternative, will have an **Adverse Effect** on the Engel Farm Precontact Archaeological Site, an archaeological site eligible for the National Register of Historic Places.

- **Mitigation Measures.**

  Phase III Data Recovery with Interpretive Display as Public Outreach Component. NYSDOT proposes mitigation for the "Adverse Effect" in the form of Phase III Data Recovery for the Site, including public dissemination of the information retrieved through Data Recovery. Established procedures will be followed to implement a Data Recovery Plan, in consultation with the SHPO and the Native American Tribal nations. The public outreach portion of the Data Recovery will include an interpretive, museum-quality display. The content, format, and materials of the interpretive display will be determined through continued consultation among FHWA, NYSDOT, SHPO, and the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe, and the Delaware Tribe. The proposed interpretive display for public dissemination of information is an outcome of consultation, reflecting the interest of the consulting Tribes in learning more about the site, and sharing that information with the tribal members and others.

A Memorandum of Agreement (MOA) is in development to resolve adverse effects, based on consultation among the SHPO, FHWA, NYSDOT, and the three Native American Tribal Nations.

5. Public Involvement

Public Involvement

The following meetings and presentations have been held as efforts to seek the public's input on the project in general:

- October 17, 2005: Project Advisory Committee meeting was held at the Town of Colonie Public Operations Building to brief and solicit feedback from federal and state agencies and local governments on the Conceptual Alternatives Screening document, which contained a summary of 19 conceptual alternatives that were being considered.
- November 21, 2005: Project Advisory Committee meeting was held at the Town of Colonie Public Operations Building to discuss any comments or questions from federal and state agencies and local governments on the Conceptual Alternatives Screening document that was distributed on 10/17/2005.
- October 11, 2007: NEPA scoping meeting was held at the Town of Colonie Public Operations Building to discuss the purpose and need statement and range of alternatives of the project with federal and state agencies and local governments.
- November 26, 2007: NEPA scoping meeting was held at the Sand Creek Middle School Auditorium on 11/26/2007 to discuss the purpose and need statement and range of alternatives of the project with the general public.
- April 2, 2009: An advisory agency scoping meeting was held at the Town of Colonie Public Operations Building to discuss the feasible alternatives which will be considered during preliminary design, review the decision making process, and review the coordination process.
- June 1, 2011: An advisory agency meeting was held at the Town of Colonie Public Operations Building to discuss the feasible alternatives which will be considered for the administrative DEIS.

Once the Draft Environmental Impact Statement is ready for release for public comment, NYSDOT plans to hold a public hearing, anticipated to be in February 2014. The specific date and time is yet to be determined.

Section 106 Consultation

NYSDOT has consulted with the New York State Historic Preservation Office (SHPO) and the Native American Tribes according to established procedures. Albany County falls within the Area-of-Interest of three Native American Tribes: the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe, and the Delaware Tribe. As noted in the listing of Cultural Resources investigations (see Section 2 of this document), many cultural resources studies have been completed for this project. In January 2012, NYSDOT provided the Phase I Archaeological Investigation report to SHPO and the three Native American Tribes. NYSDOT staff, as well as representatives from FHWA and primary engineering consultant CHA, Inc., also met with Ms. Sherry White, Tribal Historic Preservation Officer (THPO) for the Stockbridge-Munsee Community Band of Mohican Indians, to visit the Engel Farm Site location in person on January 11, 2012. The 2011 Phase I report included the 2000 Pre-Reconnaissance Study as an appendix. Responses from SHPO and from Tribal Representatives were supportive of continuing with a Phase II Site Examination of the Engel Farm Site.

The Phase II fieldwork and report were completed in November 2012, and NYSDOT distributed the report in November 2012. In December 2012, the alignment of the connector road (in the Diamond Alternative) and the ramps (in the Flyover Alternative) was altered in order to move the roadways out of the "Runway Protection Zone" of Albany International Airport. An Addendum Phase IB study was conducted for these new sections of APE identified after the alignment shift. NYSDOT distributed the Addendum Phase IB study to SHPO and the Native American Tribes in March 2013. In late March 2013, NYSDOT circulated an initial proposal to bridge a portion of the site to all parties.

On May 14, 2013, NYSDOT hosted a Section 106 consultation meeting, with NYSDOT staff, Ms. Sherry White, Tribal Historic Preservation Officer (THPO) for the Stockbridge-Munsee Community Band of Mohican Indians, FHWA staff, and SHPO representatives at the meeting. The THPOs from the Saint Regis Mohawk Tribe and the Delaware Tribe were updated by telephone conversations a few days after

the consultation meeting, and all parties were sent the minutes of the May 14th consultation meeting by email.

In July 2013, NYSDOT circulated a "Draft Finding Documentation" to SHPO, FHWA, the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe, and the Delaware Tribe. The circulation and review of the Draft was intended to share the NYSDOT analysis of potential avoidance measures, reach out to consult with the SHPO, share views of the SHPO with the Tribal Nations, and solicit and obtain the views of each Tribal representative.

Prior to the dismissal of the Diamond Alternative in November 2013, SHPO and all three Native American Tribes had indicated to NYSDOT and FHWA that they would prefer the Diamond Alternative to be progressed, as the Diamond Alternative avoids impact to the Engel Farm Precontact Archaeological Site

However, in light of the fact that the Flyover Alternative is the sole reasonable alternative, the Section 106 consulting parties have communicated the following opinions to NYSDOT regarding the treatment of the Engel Farm Precontact Archaeological Site, which would be affected by the Flyover Alternative.

- **Delaware Tribe:** Dr. Brice Obermeyer, THPO for the Delaware Tribe, stated in a letter dated December 11, 2012, that "We [the Delaware Tribe] concur that the construction will have an adverse effect on the site and concur with the Phase III Data Recovery Plan."
- **Saint Regis Mohawk Tribe:** Mr. Arnold Printup, THPO for the Saint Regis Mohawk Tribe, indicated in a letter dated April 2, 2013, that the Tribe would prefer strategies that avoided impact to the Site.
- **Stockbridge-Munsee Community Band of Mohican Indians:** Ms. Sherry White, THPO for the Stockbridge-Munsee Community Band of Mohican Indians, stated in an e-mailed letter to FHWA dated August 27, 2013, that "Our tribe makes every effort to work with agencies to find a working solution that will accommodate all parties and issues." The letter suggested alterations to the plan for Phase III Data Recovery of the Engel Farm Site.

NYSDOT has considered the views of the Native American Tribal Nations in the assessment and resolution of adverse effects. In response to the Tribal Nations' stated preference for avoidance of the site, NYSDOT has thoroughly analyzed Flyover Alternative avoidance options, and has determined that avoidance is not feasible or practical. In response to the suggestion from the Stockbridge-Munsee Community Band of Mohican Indians that an interpretive display be included as the public outreach part of the Data Recovery, NYSDOT has included the interpretive display.

NYSDOT continues to consult with SHPO and the Native American Tribes, with the goal of reaching consensus regarding mitigation strategies.

6. Attachments

- Figure 1: (deleted)
- Figure 2: "Flyover Alternative: Engel Farm Site – Site Impacts" - map
- Figure 3: "Flyover Alternative: Engel Farm Site – Fill Option" – map
- Figure 3A: "Flyover Alternative: Area of Potential effect (APE)" – map
- NYSDOT Geotechnical Evaluation, Sept. 18, 2013 (memo)
- Phase IB Archaeological Field Reconnaissance Report, *Interstate 87 (I-87) Exit 3/4 Access Improvements, PIN 1721.51.121. Person Property Wetland Mitigation, Sunset Boulevard, Town of Colonie, Albany County, New York.* Lori J. Blair and Corey McQuinn, Hartgen Archaeological Associates, Inc. October 2013.

Interstate 87 (I-87) Exit 4 Access Improvements
PIN 1721.51.121
Memorandum of Agreement

MEMORANDUM OF AGREEMENT

among

The Federal Highway Administration
The New York State Historic Preservation Office
and
The New York State Department of Transportation

Pursuant to 36 CFR 800

for

RECOVERY OF SIGNIFICANT ARCHAEOLOGICAL INFORMATION

at the

Engel Farm Precontact Archaeological Site (OPRHP USN# A00104.000605)

NYSDOT Project Identification Number (PIN) 1721.51.121
Interstate 87: Exit 4 Reconstruction and Airport Access Improvements
Town of Colonie, Albany County, New York
NY SHPO PR# 07PR05536

WHEREAS, the **Federal Highway Administration (FHWA),** in coordination with the **New York State Department of Transportation (NYSDOT)** proposes to undertake the Interstate 87 Exit 4 Reconstruction and Airport Access Improvements, henceforth termed "the Project", and this undertaking is funded by **FHWA**; and

WHEREAS, the federally funded undertaking is subject to compliance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations (36 CFR Part 800); and

WHEREAS, the undertaking consists of the reconfiguration and reconstruction of Exit 4 of Interstate 87 in the Town of Colonie, Albany County, to improve access between Interstate 87 (I-87) and the Albany International Airport, and between Interstate 87 (I-87) and Wolf Road; the undertaking includes the replacement of the bridges carrying I-87 over Albany-Shaker Road, and the construction of three new exit or entrance ramps and a new flyover bridge to reconfigure the I-87 Exit 4; and

WHEREAS, **FHWA,** in coordination with **NYSDOT,** has defined the Project's area of potential effects (APE), as the term is defined in 36 CFR 800.16(d), as shown on Figure 1 (attached) and as follows:

- a generally cross-shaped area, with the southwest-to-northeast arm following Interstate 87 for 1.8 miles from 1800 ft north of the bridges carrying I-87 over Sand Creek Road to the bridges carrying I-87 over NYS Route 155, and the southeast-to-northwest arm following Albany-Shaker Road for 1.3 miles from the Albany Shaker Road – Old Maxwell Road intersection to the south entrance of the Albany International Airport.

- On the east side of I-87, the proposed flyover ramps result in a "bulge" to the APE, approximately 2,500 ft south of the I-87/Albany-Shaker Road bridges;
- On the west side of I-87, the ramps make a "jug handle" shaped section of project area, where the exit roadway extends southwest from Albany-Shaker Road and then curves sharply south for the flyover bridge over I-87.

WHEREAS, the APE also includes the 20-acre "Person parcel," located at the end of Sunset Boulevard, northwest of I-87, and bordering Shakers Creek, proposed for wetland mitigation for the Project; (please see Figure 1 attached); and

WHEREAS, the APE represents the entire area needed for the replacement of the bridges carrying Interstate 87 over Albany-Shaker Road, the construction of three new ramps and a new flyover bridge to reconfigure I-87's Exit 4, the creation of compensatory wetlands, and all related construction activities including equipment access and staging; and

WHEREAS, **NYSDOT** in coordination with **FHWA** has conducted cultural resource studies and determined pursuant to 36 CFR 800.4(c), and in consultation with the **New York State Historic Preservation Office (SHPO)**, that the following historic properties within or adjacent to the APE are eligible for listing in the National Register of Historic Places:

- **Wolf-Kemp Cemetery Historic Site.**
- **Engel Farm Precontact Archaeological Site.**
- **Desmond Historic Archaeological Site.**
- **Exit 5 North Historic Archaeological Site.**
- **Exit 5 South Historic Archaeological Site.**

WHEREAS, the proposed project will avoid impact to the **Wolf-Kemp Cemetery Historic Site**, the **Desmond Historic Archaeological Site,** the **Exit 5 North Historic Archaeological Site,** and the **Exit 5 South Historic Archaeological Site**, since, as design of the project progressed, it became clear that no construction activities are needed in these locations; and

WHEREAS, FHWA, in consultation with **SHPO** and **NYSDOT**, has determined that the **Engel Farm Precontact Archaeological Site** is eligible for inclusion on the National Register of Historic Places under Criterion D, Information Potential, as the Site has yielded, or is likely to yield, information important in prehistory or history, and

WHEREAS, in accordance with Section 101 (d)(6)(B) of the National Historic Preservation Act, **FHWA** and **NYSDOT** have contacted the **Stockbridge-Munsee Community Band of Mohican Indians,** the **Saint Regis Mohawk Tribe,** and the **Delaware Tribe,** the three federally-recognized tribal nations in New York State that have identified aboriginal territory in Albany County, and engaged the tribal nations in consultation to evaluate archaeological properties and to consider measures that would avoid, minimize, or mitigate effects on the National Register Eligible **Engel Farm Precontact Archaeological Site**; and

WHEREAS, FHWA, in consultation with the **Stockbridge-Munsee Community Band of Mohican Indians,** the **Saint Regis Mohawk Tribe,** and the **Delaware Tribe,**

has determined that the **Engel Farm Precontact Archaeological Site** has religious and cultural significance to the Tribal Nations, and

WHEREAS, **FHWA** in coordination with **NYSDOT** invited the **Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe,** and **the Delaware Tribe** to sign this agreement as Concurring Parties; and

WHEREAS, FHWA and **NYSDOT,** and in consultation with **SHPO,** have applied the Criteria of Adverse Effect, as defined by 800.5(a)(1), and determined the project will have an adverse effect on the **Engel Farm Precontact Archaeological Site** within the APE, due to unavoidable impacts from construction activities; and

WHEREAS, in accordance with 36 CFR Part 800, the **Federal Highway Administration (FHWA)** and the **New York State Department of Transportation (NYSDOT)** ensure that Conditions 1 through 12 outlined in the **Advisory Council on Historic Preservation**'s (**ACHP**'s) "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites," and attached as Appendix 1 to this document shall be satisfied; and

WHEREAS, **FHWA, NYSDOT, SHPO**, the **Stockbridge-Munsee Community Band of Mohican Indians,** the **Saint Regis Mohawk Tribe,** and the **Delaware Tribe** agree that the recovery of significant information through archaeological excavation, including cultural material of religious and cultural significance to the Tribal Nations, is an appropriate treatment for the **Engel Farm Precontact Archaeological Site**; and

WHEREAS, **FHWA, NYSDOT, and SHPO,** agree that it is in the public interest to expend funds to implement this project through the recovery of significant information from the **Engel Farm Precontact Archaeological Site** to mitigate the adverse effects of the project, and; and

WHEREAS, based on available information, no human remains, associated or unassociated funerary objects or sacred objects, or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), are expected to be encountered in the archaeological work; and

WHEREAS, the **Stockbridge-Munsee Community Band of Mohican Indians** has shared their policy regarding the treatment of human remains, and this document is attached for reference as Appendix 4;

NOW, THEREFORE, **FHWA, NYSDOT, and SHPO,** agree that execution of this agreement evidences that **FHWA** has taken into account the effects of this undertaking on historic properties and fulfilled its responsibilities under Section 106 of the National Historic Preservation Act of 1966 (as amended).

STIPULATIONS:

FHWA, in coordination with **NYSDOT**, shall ensure the following stipulations are carried out:

I. **Data Recovery Excavations.** Phase III Archaeological Data Recovery shall be implemented for the "Engel Farm Precontact Archaeological Site" in accordance with the approved Archaeological Data Recovery Plan attached as Appendix 2.

A. Professional Qualifications and Methods

1. Investigation and documentation shall be conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archaeology (48 FR 44734-37), the Advisory Council on Historic Preservation's Section 106 Archaeology Guidance, and the current **New York State Education Department's (SED's)** *Cultural Resource Survey Program Work Scope Specifications for Cultural Resource Investigations for NYSDOT Projects*, which incorporates the **New York Archaeological Council's (NYAC's)** "Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State", 1994 (NYAC Standards).
2. All archaeological investigations carried out pursuant to this Agreement shall be conducted by or under the direct supervision of a person or persons meeting the Secretary of the Interior's Professional Qualification Standards for Archaeology (36 CFR Part 61), hereafter "the Archaeologist".
3. All artifacts, notes, and other documentation of archaeological investigations will be curated according to Federal (36 CFR 79) and State (NYAC Standards) guidelines.

B. Restrictions on Heavy Equipment.

1. The use of heavy equipment for the purpose of surface stripping or excavation within the site boundaries of the Engel Farm Precontact Archaeological Site is prohibited.

C. Native American Tribal Monitor during Data Recovery fieldwork.

1. **FHWA** shall provide an opportunity for a representative of any **Concurring Party** to this MOA to attend and observe Data Recovery fieldwork as an invited tribal monitor.
    a. **FHWA** shall reimburse the **Concurring Party** for reasonable expenses incurred by their designated tribal monitor, where such expenses are directly related to the tribal representative's temporary stay in the Colonie, New York area for the observation of Data Recovery fieldwork. The reimbursement shall include an allowance for lodging and meals, based on the federal per diem rate established for the fiscal year(s) in which fieldwork takes place, and for transportation expenses subject to prior approval by FHWA.

II. **Consultation for Tiered Data Recovery.**

The Archaeological Data Recovery Plan involves a tiered approach to Data Recovery, including geomorphological assessment of the site, close-interval shovel testing, and excavation of block units. The tiered approach specifies the archaeological fieldwork to investigate a minimum of 10% and maximum of 20% of the defined Site surface area. Under this plan, Tier 1 (comprised of Tiers 1a and 1b) shall investigate 10% of the defined Site surface area. If implemented, Tier 2 would excavate an additional 5% of the defined Site surface area, and Tier 3 would excavate an additional and final 5% of the defined Site surface area.

A. Consultation Schedule between Data Recovery Tiers.

1. Consultation and decision-making points shall occur at the following junctures in the Archaeological Data Recovery process: Completion of Tier 1a, Geomorphological Assessment and Close-Interval Shovel Testing; Completion of Tier 1b, Block Unit Excavation archaeological fieldwork; and Completion of Tier 2, Block Unit Excavation archaeological fieldwork, if **FHWA** and **NYSDOT** decide that Tier 2 archaeological fieldwork is warranted after Tier 1.
2. **NYSDOT** shall distribute summary results, schedule a meeting, and engage in consultation at the following points during the Archaeological Data Recovery process:
    a. Completion of Tier 1a, Geomorphological Assessment and Close-Interval Shovel Testing;
    b. The point in the Tier 1b Block Unit Excavation archaeological fieldwork when the Archaeologist estimates that there are 2 weeks or less of fieldwork time remaining to complete the Tier 1b excavations;
    c. Completion of Tier 2 Block Unit Excavation archaeological fieldwork, if **FHWA** has decided that Tier 2 archaeological fieldwork is warranted after Tier 1.
3. Consultation at the above-referenced points between Data Recovery Tiers shall include **NYSDOT, FHWA, SHPO,** and all **Concurring Parties** to this MOA. If there are no Concurring Parties, NYSDOT and FHWA shall consult with the SHPO.
4. At each one of the points listed above (Stipulation II. A. 2., a.-c.), **NYSDOT** shall distribute the summary document detailing the results of that Tier, and the Archaeologist's recommendations for the next step in the implementation of the Data Recovery Plan based on the results, to **FHWA, SHPO,** and all **Concurring Parties** to this agreement. The summary document, anticipated to be a Geomorphological Assessment and/or an End-of-Field Letter, shall be subject to a review period of 30 (thirty) calendar days.
5. **FHWA, SHPO,** and the **Concurring Parties** shall provide written comments to **NYSDOT** and **FHWA** regarding the summary document on or before the end of the 30-day review period.
6. **NYSDOT,** in coordination with **FHWA,** shall schedule a consultation meeting with conference call capabilities to occur within 10 (ten) calendar days of the end of the 30-day summary document review period, and

shall invite **SHPO** and all **Concurring Parties** to attend and participate. The subject of the consultation meeting shall be the review and discussion of the summary document.

7. **NYSDOT** shall provide written meeting notes of the consultation meeting by e-mail to **FHWA, SHPO,** and the **Concurring Parties** within 10 (ten) calendar days after the consultation meeting.
8. **FHWA** in coordination with **NYSDOT** shall consider the written comments provided by the end of the summary document review period, and the comments provided during the consultation meeting; then, **FHWA** in coordination with **NYSDOT** shall provide the decision regarding the Archaeologist's recommendations, including any modifications, in writing to **SHPO** and the **Concurring Parties** within 10 (ten) calendar days after meeting notes have been distributed (as per Stipulation II., A., 7. above).
9. **NYSDOT** shall notify the Archaeologist of the decision, and direct the Archaeologist to take appropriate action to either continue or complete Data Recovery fieldwork.

B. Completion of Data Recovery Fieldwork.

1. If, at the consultation and decision-making points at the completion of Tier 1b or Tier 2, **FHWA** and **NYSDOT** decide that Data Recovery fieldwork shall be terminated, then **NYSDOT** shall direct the Archaeologist to prepare a closing End-of-Field letter indicating the completion of Data Recovery fieldwork.
2. If the archaeological data recovery fieldwork continues through to completion of Tier 3, then **NYSDOT** shall direct the Archaeologist to prepare a closing End-of-Field letter at the completion of Tier 3, indicating the completion of Data Recovery fieldwork.
3. **NYSDOT** shall distribute the closing End-of-Field letter to **FHWA** and **SHPO. FHWA** and **SHPO** shall have 30 (thirty) calendar days to review the closing End-of-Field Letter.
4. If **NYSDOT, FHWA,** or **SHPO** has concerns or comments regarding the closing End-of-Field Letter, then they may engage in consultation during this 30-day review period to resolve the comments or concerns.
5. **FHWA** and **SHPO** shall indicate their concurrence by responding to **NYSDOT**, in writing, that the Data Recovery fieldwork has been fully implemented, that obligations to recover significant information have been met, and that the area is cleared for construction use.
6. **NYSDOT** shall forward the closing End-of-Field letter and the **FHWA** and **SHPO** written concurrences that Data Recovery Fieldwork is complete to the **Concurring Parties** within 30 (thirty) days of the date of **SHPO** and **FHWA** written concurrence.

C. Data Recovery Report.

NYSDOT shall provide a final copy of the Archaeological Data Recovery Report, when complete, to **FHWA, SHPO,** the **Stockbridge-Munsee**

Community Band of Mohican Indians, the **Saint Regis Mohawk Tribe,** and the **Delaware Tribe. NYSDOT** shall provide one printed paper copy and one electronic-format copy to each recipient listed above.

III. Regional Historic Context Synthesis Report.

After the completion of the Archaeological Data Recovery fieldwork, and the issuance of the closing End-of-Field Letter, the Archaeologist shall prepare a Regional Historic Context Synthesis Report. The Regional Historic Context Synthesis Report shall include discussion of the research completed on the Engel Farm Precontact Archaeological Site, and on other known archaeological sites within the Albany Pine Bush, and also address topics, including but not limited to, the geologic and environmental history of the region, the settlement and occupational history, and subsistence patterns associated with the Albany Pine Bush.

A. **NYSDOT** shall distribute a draft copy of the Regional Historic Context Synthesis Report, within 18 (eighteen) calendar months of the date of written concurrence that Data Recovery fieldwork is complete, to **FHWA, SHPO,** and the **Concurring Parties** to the MOA. One printed paper copy and one electronic copy shall be provided to each recipient listed above. The Draft Regional Historic Context Synthesis Report shall be subject to a review period of 60 (sixty) calendar days.

B. **FHWA, SHPO,** and the **Concurring Parties** shall provide written comments to **NYSDOT** regarding the draft Regional Historic Context Synthesis Report on or before the end of the 60-day review period.

C. **NYSDOT** shall forward all written comments received by the end of the review period to the **Archaeologist** for their consideration, and direct the Archaeologist to make appropriate revisions to the draft Regional Historic Context Synthesis Report.

D. **NYSDOT** shall provide a copy of the final Regional Historic Context Synthesis Report, within 6 (six) calendar months after the end of the 60-day review period of the draft, to **FHWA, SHPO, the Stockbridge-Munsee Community Band of Mohican Indians, the Saint Regis Mohawk Tribe,** and the **Delaware Tribe**. One printed paper copy and one electronic copy shall be provided to each recipient listed above.

IV. Aesthetic Treatment on Flyover Abutments.

NYSDOT in coordination with **FHWA** will carry out consultation to consider the application of figurative or symbolic aesthetic treatment to the flyover ramp abutments.

A. Within 10 (ten) calendar days of the date of **FHWA**'s execution of this Memorandum of Agreement, **NYSDOT** shall send a written letter to the **Concurring Parties to this MOA** and **SHPO,** inviting them to submit written proposals for figurative or symbolic aesthetic treatment to be applied to the flyover ramp abutments.

B. The **Concurring Parties** and/or **SHPO,** shall deliver written proposals for figurative or symbolic aesthetic treatment to be applied to the flyover ramp abutments to **NYSDOT** and/or **FHWA** on or before the date that is 45 (forty-five) calendar days from the date of **FHWA**'s execution of this Memorandum of Agreement.

C. If any such proposals are submitted, **NYSDOT** shall schedule 1 (one) to 5 (five) consultation meetings or conference calls, as needed, to occur within 7 (seven) calendar months of the date of **FHWA**'s execution of this Memorandum of Agreement. **NYSDOT** shall invite **FHWA, SHPO,** and the **Concurring Parties** to attend and participate. The purpose of these consultation meetings shall be to consider the written proposals received from the **Concurring Parties** and/or **SHPO** for aesthetic treatment to be applied to the flyover ramp abutments.

D. If consultation results in a consensus recommendation for an aesthetic treatment on the flyover ramp abutments, **NYSDOT** shall provide a summary of the consultation, and notify the **SHPO, FHWA**, and **Concurring Parties** of its decision regarding an aesthetic treatment within 8 (eight) months of the execution of this MOA. **NYSDOT** shall include the selected aesthetic treatment in the project's Contract Documents which include the construction of the flyover ramps and abutments.

E. If consultation does not result in a consensus recommendation, or if no written proposals for an aesthetic treatment are received within the timeframe specified in Stipulation IV.B., then no symbolic or figurative aesthetic treatments will be applied to the flyover ramp abutments. In that case, **NYSDOT** may apply simple aesthetic patterning to the flyover abutments, similar to other bridges in the Interstate 87 corridor in Albany and Saratoga Counties.

V. Protection Measures for the adjacent Squash Patch Archaeological Sites.

A. **NYSDOT** shall erect Temporary Plastic Barrier Fence at the property line separating the "Person Parcel" property to be acquired for wetland mitigation use for this Project and the parcel adjoining on the north owned by the Albany County Airport Authority, in order to increase the visibility of the property line and to discourage construction equipment and personnel from entering said adjoining property, in order to limit potential damage to the "Squash Patch" archaeological sites located within the Albany County Airport Authority's property.

B. **NYSDOT** shall ensure that the requirement for the placement of Temporary Plastic Barrier Fence along the property line as described in the previous Stipulation V., A., is included in the project's Contract Documents which include wetland construction on the "Person Parcel".

VI. Unanticipated Discovery of Human Remains during Data Recovery.

In the event that evidence of a human burial is encountered during data recovery, **NYSDOT** shall follow the guidelines of the New York State Office of Parks,

Recreation, and Historic Preservation Human Remains Policy, incorporated in the Data Recovery Plan (attached as Appendix 2). **NYSDOT** shall notify **FHWA** to initiate consultation with the **Saint Regis Mohawk Tribe**, the **Delaware Tribe**, and the **Stockbridge-Munsee Community Band of Mohican Indians.** The appropriate treatment and disposition of identified human remains and associated artifacts will be determined by **FHWA** and **NYSDOT** in consultation with **SHPO** and the three Tribal Nations.

VII. Duration.

This MOA will be null and void if its terms are not carried out within 5 (five) years from the date of its execution. Prior to such time, **FHWA** may consult with the other signatories to reconsider the terms of the Memorandum of Agreement (MOA) and amend it in accordance with Stipulation XI below.

VIII. Post-Review Discoveries.

If evidence of burials or human remains is encountered during construction, **NYSDOT** will implement established procedures for the inadvertent discovery of human remains during construction (attached as Appendix 3). Construction activities in the location of the discovery will be suspended pending notification to and consultation among the **SHPO, NYSDOT, FHWA, Stockbridge-Munsee Community Band of Mohican Indians**, **Delaware Tribe**, and **Saint Regis Mohawk Tribe**, in accordance with these procedures.

If potential historic properties are discovered or unanticipated effects on historic properties other than human remains are found, **NYSDOT** and **FHWA** will follow procedures for notification and consultation pursuant to 36 CFR 800.13(b)(3).

IX. Monitoring and Reporting.

Each calendar year following the execution of this MOA, until it expires or is terminated, **FHWA** shall provide all parties to this MOA an annual summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in **FHWA**'s efforts to carry out the terms of this MOA.

X. Dispute Resolution.

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, **FHWA** shall consult with such party to resolve the objection. If **FHWA** determines that such objection cannot be resolved, **FHWA** will:

A. Forward all documentation relevant to the dispute, including the **FHWA**'s proposed resolution, to the **ACHP**. The **ACHP** shall provide **FHWA** with its advice on the resolution of the objection within 30 (thirty) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, **FHWA** shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the **ACHP**, signatories and

concurring parties, and provide them with a copy of this written response. **FHWA** will then proceed according to its final decision.

B. If the **ACHP** does not provide its advice regarding the dispute within the 30 (thirty) day time period, **FHWA** may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, **FHWA** shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the **ACHP** with a copy of such written response.

C. **FHWA**'s responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

XI. Amendments.

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the **ACHP**.

XII. Termination.

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XI above. If within 30 (thirty) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, **FHWA** must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. **FHWA** shall notify the signatories as to the course of action it will pursue.

Execution of this Memorandum of Agreement by **FHWA, NYSDOT,** and **SHPO**, and filing with the **ACHP** as specified in 36 CFR 800.6Ib)(1)(IV) and the implementation of its terms evidence that **FHWA** has taken into account the effects of the project on historic properties.

Required Signatory

Federal Highway Administration (FHWA)

8/26/14

Robert Davies, District Engineer, FHWA New York Division — Date

Required Signatory

New York State Historic Preservation Officer (SHPO)

Ruth L. Pierpont, Director, Historic Preservation — 7/31/14 Date

Invited Signatory

New York State Department of Transportation (NYSDOT)

Sam Zhou 7/30/2014

Sam Zhou, Regional Director, NYSDOT Region 1 Date

Concurring Party

Stockbridge-Munsee Community Band of Mohican Indians

Wally Miller, President — Date: 8-19-14

Concurring Party

Saint Regis Mohawk Tribe

Arnold L. Printup, Tribal Historic Preservation Officer — Date: 5-6-2014

Concurring Party

Delaware Tribe

Dr. Brice Obermeyer, Tribal Historic Preservation Officer Date

Attachments:

Figure 1. Area of Potential Effects Map.

Appendix 1. Advisory Council on Historic Preservation's (**ACHP**'s) "Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites."

Appendix 2. Archaeological Data Recovery Plan (including Human Remains Discovery Protocol).

Appendix 3. NYSDOT Procedures in the Event of Inadvertent Discovery of Human Remains During Construction.

Appendix 4. Stockbridge-Munsee Community Band of Mohican Indians, "Policy for Treatment and Disposition of Human Remains and Cultural Items That May be Discovered Inadvertently During Planned Activities."

Figure 1.
Area of Potential Effects Map

LEGEND
- 2013 ADDITIONAL APE
- WETLAND MITIGATION APE
- FLYOVER ALTERNATIVE APE

Heritage Park
Cem
Shakers
Ann Lee Pond
Shakers Cr
WATERVLIET SHAKER RD
ROAD
WOLF ROAD
ALBANY
OLD
NORTHWAY
MAXWELL
DoT Facility
Sub Sta
GRID NORTH
Village Hall
Forest Park Elem Sch
FOREST DR
SAND
Pumping Station
Sub Sta
Southgate School
BM 298
BM

1000 0 1000 FT
SCALE

CHA
III Winners Circle, PO Box 5269 • Albany, NY 12205-0269
Main: (518) 453-4500 • www.chacompanies.com

FLYOVER ALTERNATIVE AREA OF POTENTIAL EFFECT

INTERSTATE 87 (I-87) EXIT 3 / 4 ACCESS IMPROVEMENTS

FIGURE
3A
DATE: 10/13

FILE NAME = U:\9456\dgn\Preliminary Design\SHPO\Flyover_figure_3A.dgn
DATE/TIME = 10/3/2013
USER = 3176

Appendix 1.
Advisory Council on Historic Preservation's (ACHP's)
"Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites"

Appendix 1

Advisory Council on Historic Preservation Conditions:
Recommended Approach for Consultation on
Recovery of Significant Information from Archaeological Sites.

1. The archaeological site(s) should be significant and of value chiefly for the information on prehistory or history they are likely to yield through archaeological, historical, and scientific methods of information recovery, including archaeological excavation.

2. The archaeological site should not contain or be likely to contain human remains, associated or unassociated funerary objects, sacred objects, or items of cultural patrimony as those terms are defined by the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001).

3. The archaeological site should not have long-term preservation value, such as traditional cultural and religious importance to an Indian tribe or a Native Hawaiian organization.

4. The archaeological site should not possess special significance to another ethnic group or community that historically ascribes cultural or symbolic value to the site and would object to the site's excavation and removal of its contents.

5. The archaeological site should not be valuable for potential permanent in-situ display or public interpretation, although temporary public display and interpretation during the course of any excavations may be highly appropriate.

6. The Federal Agency Official should have prepared a data recovery plan with a research design in consultation with the SHPO and other stakeholders that is consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and the Advisory Council on Historic Preservation's Treatment of Archaeological Properties: A Handbook. The Plan should specify:

    a) The results of previous research relevant to the project;
    b) research problems or questions to be addressed with an explanation of their relevance and importance;
    c) the field and laboratory analysis methods to be used with a justification of their cost-effectiveness and how they apply to this particular property and these research needs;
    d) the methods to be used in artifact, data and other records management;
    e) explicit provisions for disseminating the research findings to professional peers in a timely manner;
    f) arrangements for presenting what has been found and learned to the public, focusing particularly on the community or communities that may have interests in the results;
    g) the curation of recovered materials and records resulting from the data recovery in accordance with 36 CFR part 79 (except in the case of unexpected discoveries that may need to be considered for repatriation pursuant to NAGPRA); and
    h) procedures for evaluating and treating discoveries of unexpected remains or newly identified historic properties during the course of the project, including necessary consultation with other parties.

Appendix 1

7. The Federal Agency Official should ensure that the data recovery plan is developed and will be implemented by or under the direct supervision of a person, or persons, meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739).

8. The Federal Agency Official should ensure that adequate time and money to carry out all aspects of the plan are provided, and should ensure that all parties consulted in the development of the plan are kept informed of the status of its implementation.

9. The Federal Agency Official should ensure that a final archaeological report resulting from the data recovery will be provided to the SHPO. The Federal Agency Official should ensure that the final report is responsive to professional standards, and to the Department of the Interior's Format Standards for Final Reports of Data Recovery Programs (41 FR 5377-79).

10. Large, unusual, or complex projects should provide for special oversight, including professional peer review.

11. The Federal Agency Official should determine that there are no unresolved issues concerning the recovery of significant information with any Indian tribe or Native Hawaiian organization that may attach religious and cultural significance to the affected property.

12. Federal Agency Officials should incorporate the terms and conditions of this recommended approach into a Memorandum of Agreement or Programmatic Agreement, file a copy with the Council per § 800.6(b)(iv), and implement the agreed plan. The agency should retain a copy of the agreement and supporting documentation in the project files.

Appendix 2.
Archaeological Data Recovery Plan
(including Human Remains Discovery Protocol)

CULTURAL RESOURCES
DATA RECOVERY PLAN

for

The Engel Farm Precontact Site
PIN 1721.51.121
Exits 3 and 4 of Interstate 87
Town of Colonie, Albany County, New York
Program Year 2014-2015

Prepared by:
Christina B. Rieth, Ph.D.
Principal Investigator

Submitted to:
The New York State Department of Transportation and
The Federal Highway Administration

May 14, 2014

ANTHROPOLOGICAL SURVEY

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INTRODUCTION

The following document contains the data recovery plan for the mitigation of the Engel Farm Precontact site in the Town of Colonie, Albany County, New York (Figures 1 and 2). Through consultation in accordance with Section 106 of the National Historic Preservation Act and its implementing regulation (36 CFR Part 800), NYSDOT and FHWA have determined that the Interstate 87-Exit 4, Airport Access Improvement project will result in adverse effects on the Engel Farm Site, a property determined eligible for the National Register of Historic Places. The following data recovery plan includes a description of the Engel Farm Precontact site along with sections outlining the research questions, excavation methods, artifact analysis and interpretation, and a time table for the completion of this work. All work will follow the *New York State Education Department Workscope for New York State Department of Transportation Projects* (SED 2004). Information relating to the project workscope was provided by Tanya Thorne of the NYSDOT, Region 1.

NYSDOT Project Overview

The Engel Farm Precontact site will be impacted as a result of PIN 1721.51.121 which involves Access Improvements for the Albany International Airport. Access improvements for the project include but are not limited to the reconfiguring of Exit 4 to allow for improved traffic capacity handling and improved airport access off of the north and south bound lanes of Interstate 87. As part of this project several additional improvements will be needed including the construction of new entry/exit ramps to Interstate 87 on the southside of its intersection with Albany-Shaker Road as well the replacement of bridges that carry Interstate 87 over Albany-Shaker Road. The depth of impact in these areas is currently not known however, it is expected that all impacts will be contained within the first two feet of the ground surface.

Relationship between Project Area and Archaeological Sites

Hartgen Archaeological Associates previously completed a reconnaissance survey and site examination for this project within the area of potential effects (APE) established for the proposed reconstruction of Exit 4 (Hartgen 2011). The survey identified six archaeological sites within the proposed project limits including the Engel Farm Precontact site. According to the report (Hartgen 2012), other isolated precontact sites surround the Engel Farm Precontact site (including the Shaker Run 1 and 2 sites, the Squash Patch Site, and the Shaker Creek Sites) increasing the potential that the site could contribute to our understanding of the past.

Based on consultation with the New York State Historic Preservation Office (SHPO), the Stockbridge-Munsee Community Band of Mohican Indians, the Delaware Tribe, and the St. Regis Mohawk Tribe, the Engel Farm Precontact Site has been determined eligible for listing in the National Register. Data was generated through surface collection, shovel testing, and archaeological unit excavation. Surface collection as part of recent survey efforts recovered 43 precontact artifacts including chert debitage and fire cracked rock. Surface collection over the previous decades by the land owner recovered numerous artifacts. The property owner recently provided 14 projectile points, 2 bifaces, and a ground pestle. Both Vosburg and Brewerton projectile points were found within, or near to, the Engel Farm Precontact Site.

Figure 1. Map showing the location of the PIN 1751.21 project area within Albany County, New York.

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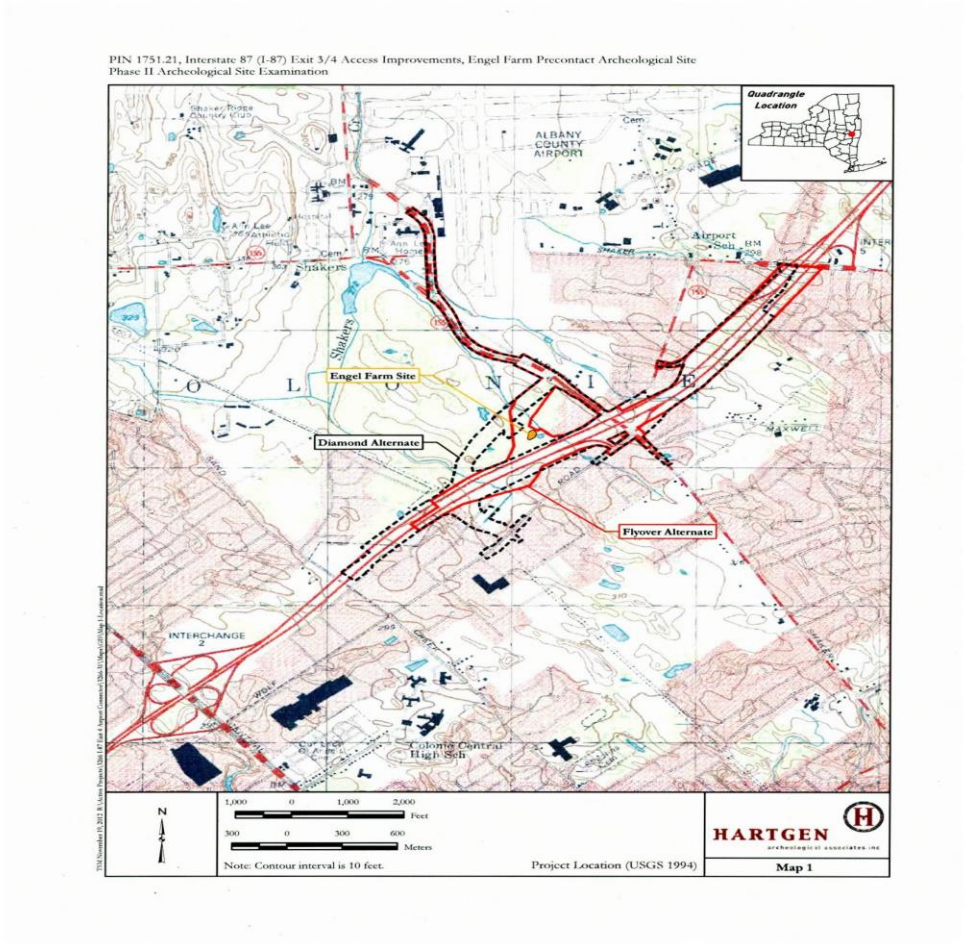

Figure 2. Map showing the Engel Farm site within the larger project area.
CONFIDENTIAL, NOT FOR PUBLIC DISTRIBUTION

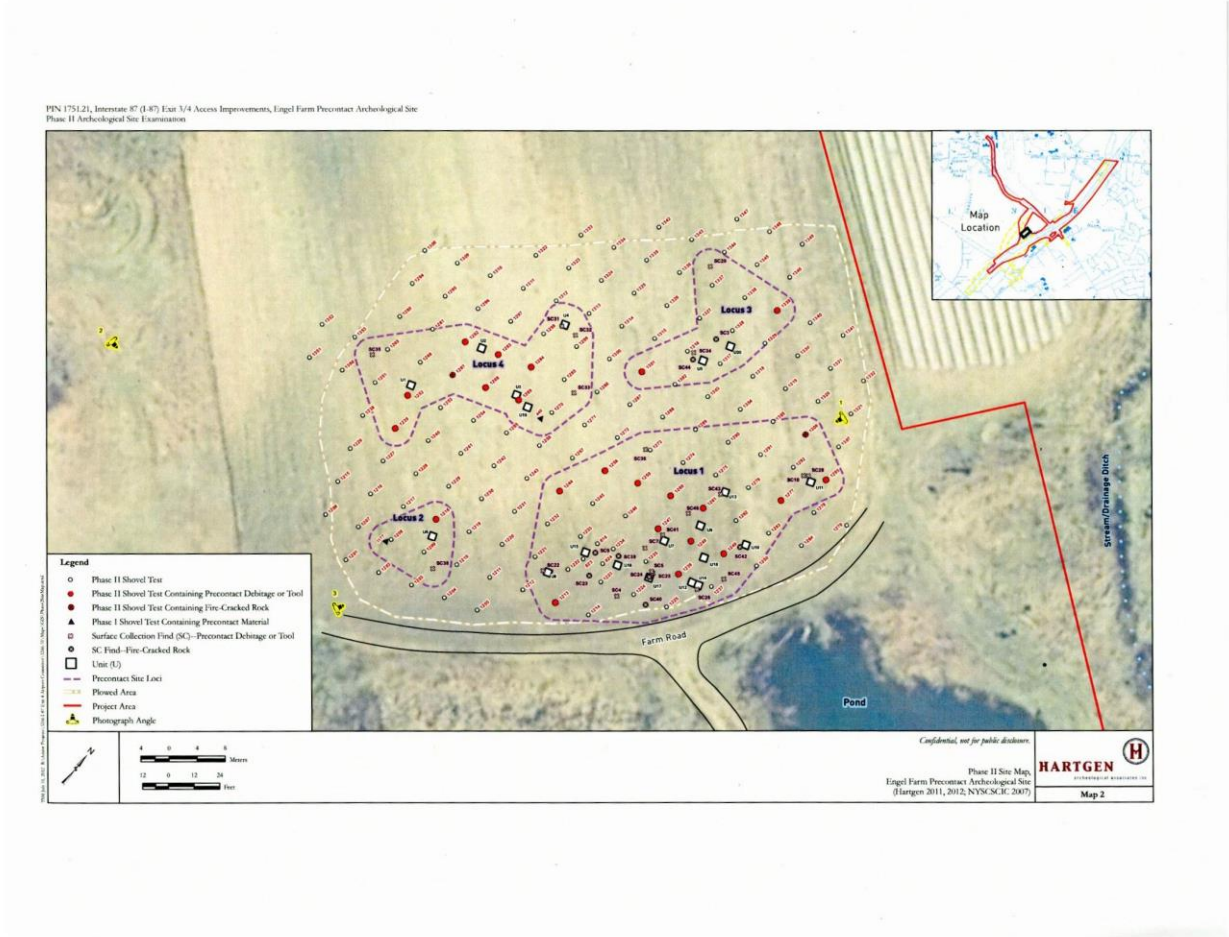

Figure 3. Phase II site map of the Engel Farm site.
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OVERVIEW OF THE ENGEL FARM SITE

The Engel Farm Precontact site is located on the north side of Interstate 87 and south of the Albany International Airport (Figure 3). The reconnaissance survey and the site examination of the Engel Farm Precontact site produced a limited number of artifacts within the first soil layer. The limited number of artifacts recovered suggests that the site represents a temporary or seasonal occupation that may have been occupied over several successive years.

Site Location and Boundaries

The Engel Farm site is located in Albany County on the north side of Interstate 87 and south of the Albany International Airport. The site and much of the surrounding area is located with the Albany Pine Bush. The Engel Farm Site, as tested within the APE for this project, measured 3,700 m^2 (39,828 ft^2) in size. The entire site is recommended for data recovery.

Following Hartgen (2012:1), "the Engel Farm Precontact site lies amid a patchwork of farm fields, drainage ditches, scrub lands, and woods. The site itself is flat with small variations in topography creating a less well-drained area in the south near a pond, which also coincides with the densest concentration of artifacts. A low rise to the north overlooks the pond and a similar rise in the west hosts a family cemetery from the late 18th century. Isolated finds were found at both high spots, including a flake to the north and a possible Vosburg-type projectile point to the west. A brushy, wooded drainage feature obscures the view of the site from Interstate 87".

Background of Small Lithic Sites in the Northeast and Albany County

The archaeology of the Northeastern United States is represented by various site types that dot the landscape and were used for a variety of purposes by Native groups in the past. Included among these types of sites are small lithic scatters. Lithic scatters are most readily classified by their small size (often ranging in size from a few meters to a maximum size of one acre), limited artifact assemblages (often less than several hundred artifacts consisting mostly of lithic debitage), low density of features, and relatively limited number of formal tools or other types of artifacts (ie. ceramics). Small lithic scatters have been identified on sites dating from approximately 12,000 years ago up until the time of European contact (Beckerman 2002).

In the Town of Colonie, small lithic sites have been identified at several sites including the Colonie Shaker Creek I and II sites (Miroff and Carrington 2007). At the Colonie Shaker Creek I site, a small lithic assemblage measuring approximately 30 meters square (4 meters (13.12 feet) wide x 9.5 meters (31 feet) long) was identified within the project limits producing 3 artifacts. A small lithic assemblage was also identified at Loci 1 of the Colonie Shaker Creek II site and measured approximately 4 meters (13.12 feet) long and 4 meters (13.12 feet) wide. This assemblage produced 3 artifacts. It is important to note that the testing interval within both of these sites was successively reduced from 15 to 2.0 meters (50 feet to 6.56 feet) to more accurately define the site boundaries around positive and negative shovel test pits. Close interval testing allowed archaeologists to refine the project limits and reduce the size of the site within the APE.

Previous Work at the Engel Farm Site

Data collection included a systematic surface collection, a line of shovel tests arranged at an interval of 4.5-5 meters (14.76-16.04 feet) apart, and the excavation of multiple units totaling an area of 20 m^2 (215.2 ft^2) (Hartgen 2012). Although excavations were conducted through the first and second soil layers to a depth of 60 centimeters (23.62 inches) below ground surface, more than 98% of the artifacts were recovered from the plowzone at an approximate depth of 0-45 centimeters (0-17.71 inches).

Surface collection as part of recent survey efforts recovered 43 precontact artifacts including chert debitage and fire cracked rock. Surface collection over the previous decades by the land owner recovered numerous artifacts. The property owner recently provided 14 un-provenienced projectile points, 2 bifaces, and a ground pestle to Hartgen (2012) to examine during the site examination. Both Vosburg and Brewerton projectile points were found within, or near to, the Engel Farm Precontact Site and point to the occupation of the site during the Archaic Period.

Artifacts and associated materials recovered from excavation units within the APE for this project include pieces of wood charcoal, chert flakes, fire cracked rock, a chert core, a quartzite cobble and a quartzite flake, chert bifaces, one lanceolate projectile point (possibly a *Meadowwood* point), and one projectile point base made from *Onondaga Chert*. A total of 94 artifacts were recovered from Locus 1 with evidence of horizontal artifact patterning including fire cracked rock and sandstone cobbles. This suggests that features may have been present in this area.

The Engel Farm Precontact Archaeological Site lies in the *Pine Bush* region, an archaeologically little-known landscape in native North America. The Engel Farm Precontact site is part of a constellation of other sites located within this ecosystem, but no attempt has been made to deal with these sites as a cultural context as of yet and explore their potential for providing more information about site organization and landscape use. Most notably, the Squash Patch (Hartgen 2004) and Shaker Run sites (Mackey 1990, Curtin 1991) lie within 1,400 feet and one mile, respectively, to the Engel Farm Precontact Site in the head of the Shaker Creek drainage. Two of the Shaker Run sites were found to be eligible for National Register listing and were the subject of Phase III data retrieval.

Another known field survey in the immediate area was conducted in 1999 by Dr. Michael Werner of Werner Archeological Consulting. It consisted of a Phase 1 Survey for a private business that did not continue with the project. Though unpublished and lacking site files, Dr. Werner has communicated to the NY SHPO office that the 1999 survey was conducted in a parcel in the vicinity of the Squash Patch area bordering the Engel Farm Precontact Site. This survey yielded precontact artifacts in surface find spots in two open field locations as well as shovel tests in two wooded areas. In addition, he stated there were isolated finds throughout the entire property.

The Engel Farm Precontact Site is larger in area than the Squash Patch or Shaker Run Sites. Based on the artifacts that have already been recovered, and the Engel' own collection of artifacts they have gathered, the Site is has the potential to produce material that could be used to address questions related to the Early Archaic to Late Archaic period occupation of the Pine Bush.

RESEARCH QUESTIONS AND FIELD METHODOLOGY

Mitigation of the Engel Farm site is likely to yield information that could be used to address research questions relating to the precontact and post-contact occupation of the site. As discussed below, several general research topics will be explored during this project. The methodology put forth in following section is meant to maximize the research potential of the site in an effort to address these research questions.

PRECONTACT RESEARCH ISSUES

The Pine Bush is considered by many archaeologists (e.g. Ritchie 1995; Ritchie and Funk 1973) to have been an important settlement and resource procurement area throughout the Archaic and Woodland Periods. Unfortunately, the lack of professional work in the Pine Bush has not only limited our ability to interpret activities associated with the regional organization and resource scheduling tasks of these precontact populations but has also created a noticeable gap in our understanding of the settlement of eastern New York.

Compounding this problem is a distinct bias on the part of archaeologists toward the excavation of larger camps and semi-permanent village sites in the region. As evidenced by the site files at the New York State Museum and the NYS Office of Parks, Recreation, and Historic Preservation, dozens of precontact sites can be found nearby in Albany County. These sites are quite diverse with small and large seasonal camps, village sites (e.g. Ritchie 1968), burial sites (Parker 1922), and temporary resource processing stations (e.g. Jones et. al. 1992) reported. Unfortunately, only larger base camps and villages (e.g. Snow 1995) have been intensively investigated. As a result, the diverse relationship between these larger sites, smaller camps and lithic scatters remain poorly understood.

Mitigation of the Engel Farm Site could potentially contribute to our understanding of the Pine Bush by collecting information about the subsistence and settlement activities of one of these small camp sites.

Specific research themes to be addressed during Data Recovery have been developed as a result of consultation among SHPO, FHWA, NYSDOT, and Tribal Nations. These include the following:

1. Are there associated Paleo-Indian components of the Engel Farm Precontact Archaeological Site?
2. Are there any archaeological features preserved within the site contexts?
3. How does the Engel Farm Precontact Archaeological Site fit within a regional archaeological context? (key components will include regional syntheses, settlement patterns, and resource usage/exploitation through time).
4. What contextual relationship can we establish between this site and other known precontact sites in the Pine Bush Region (e.g. the Squash Patch site, the Shaker Run sites, information in the vicinity identified by Werner Archeological, etc.)

The ability of the archaeologists to understand these questions requires us to put them within the larger archaeological framework of the chronology of the region, its settlement and subsistence data, and the role of material culture among past populations. A discussion of each of these is provided below.

Chronology

The chronology of the Engel Farm site needs to be refined before other research questions can be addressed. As discussed in the Background section, possible Vosburg and Brewerton projectile points have been recovered from deposits located beyond the site boundaries. These types of points are usually found on sites dating to the Late Archaic Period and probably indicate that the deposits on the north side of Albany-Shaker Road date to c. 4,000-1,500 B.C. (Ritchie 1971). Presently, no diagnostic artifacts have been recovered from within the project limits and the artifact catalog contained in the site examination report does not list any additional artifacts that can be used to refine the age of the site. Although we expect the deposits identified in the first and second soil layers to also date to the Late Archaic Period, successful completion of this data recovery project will require confirmation of the temporal affiliation of this portion of the site using radiocarbon dating and/or stylistic analysis. Ideally, data required for radiocarbon dating will be derived from carbon-bearing features. Stylistic analysis will also be

employed during the mitigation and will require the recovery of temporally diagnostic artifacts (e.g. projectile points, etc.) from identified features and living floor contexts within the project limits.

Site Formation Processes

Reconstructing the formation processes of a site is a complex task that requires an understanding of the dynamic relationship between past populations and the local environment. According to Butzer (1990:37-39), this complex relationship often requires that a geomorphological study be completed so that questions related to precontact/ historic land use and the development of the local landscape can be adequately addressed. The formation of the Engel Farm Precontact Site will be reconstructed through a detailed study of the site's geomorphology. Analysis of the soils (and their association with cultural material from the site) will not only allow researchers to document how individual soil horizons (and the corresponding floodplain and terrace) formed but is also expected to resolve issues related to the post-glacial deposition of precontact materials in two distinct soil layers. Archaeologists will attempt to address this issue through block units and a detailed analysis of the formation processes of the site.

Since excavation units will be placed across the site, a comparative study of the geomorphology of these environments may be possible and could further enhance our understanding of the formation of this precontact site. Soil samples will be collected for organic carbon and particle size analysis and may provide valuable insights contributing to our understanding of the physical characteristics and precontact use of these different environments.

Spatial Patterning and Site Function

Information about the spatial patterning and function of a site is most readily reflected in the distribution of structures, features, and artifacts across the site. Archaeologists will reconstruct the spatial patterning of the site through an analysis of the horizontal and vertical distribution of artifacts and features within the project limits. As discussed in the Background section, Hartgen Archaeological Associates (2012) identified four discrete concentrations of artifacts within the current project limits. Due to the limited amount of testing in these areas as well as the fact that few units extended significantly into the subsoil, we currently do not know whether a second precontact component is located underneath or whether they represent isolated artifacts that were deposited as a result of some other process. Archaeologists will attempt to address this issue through deep testing within the project limits and through a detailed analysis of the formation processes of the site. Refinement of the horizontal distribution of artifacts across the site is equally important and will also represent a major research focus of this project. As discussed in the site examination report (2012), multiple artifact clusters were identified within the original project limits.

The identification of features within the project limits is important and is expected to provide information about the site's function and duration of use. Northeast archaeologists regularly argue that the function of a site is largely dependent upon the types of features that are found (Ritchie and Funk 1973; Ritchie 1968; Snow 1980). Moeller (1992) similarly argues that a detailed analysis of the size, shape, and feature contents can provide meaningful information about the site's duration of use, seasonality, and activities. Although no precontact features have been identified within the project limits, the recovery of fire-cracked rock suggest that one or more hearths may be located within the project limits. If features are identified within the project limits, information about the size, shape, and feature contents will be recorded on standard field forms. In addition, flotation samples will be collected from each of these features and are expected to produce botanical remains that could be used to enhance our understanding of the seasonality of this hunter-gatherer site.

Finally, the artifacts themselves are expected to provide information about the spatial organization and function of this precontact site. Archaeologists often argue that the types of chipped stone tools and the types of debitage that are deposited at a site are indicative of group mobility and settlement organization (Binford 1978; Kintigh 1984; Magne 1985). Despite these claims, only a handful of Northeast archaeologists have used lithics to enhance their discussion of settlement organization (Cesarski 1996; Versaggi 1987). Mitigation of the Engel Farm Precontact Site will attempt to contribute to this research theme by exploring the unique relationship between lithic technology and settlement organization.

Subsistence

Archaeologists have long constructed subsistence models that emphasize the important role that hunting and gathering played among the precontact peoples of the Northeast. Although aviary and aquatic resources are often recovered from these sites, these specimens are not considered to be primary food items and have been regarded as supplementary foods among Northeast hunter-gatherer populations. An important aspect of these models is the belief that this type of subsistence strategy was uniformly adopted across the Northeast and continued to be practiced (relatively unchanged) between the Late Archaic (c. 6,000 B.P.) and the first half of the Middle Woodland (c. 1,500 B.P) Periods (Ritchie 1968; Ritchie and Funk 1973). Recently, archaeologists have begun to question this assumption suggesting that the subsistence strategies of these precontact populations were probably more complex with precontact groups consuming different types and frequencies of foods (e.g. Asch Sidell 1999; Bernstein 1992, 1999; Cassedy 1998; Versaggi 1999).

Mitigation of the site is expected to contribute to this research issue by documenting the subsistence practices of this small site. As discussed in the Artifact Analysis section, questions relating to the subsistence strategy of this precontact population will be addressed based upon the recovery of floral and faunal remains from features and living floor contexts. Identification of the floral remains from this site will be completed by a professional archaeobotanist while identification of the faunal remains from the site will be completed "in house" by staff from the New York State Museum.

Microscopic analysis of the chipped stone tools and utilized flakes will also be completed and may contribute to our understanding of the subsistence activities of this precontact population. A small portion of the lithic assemblage will be sent to a professional lithic analyst for use-wear analysis (see Organization of Lithic Technology section). Microscopic analysis of these artifacts is expected to produce detailed information about the range of materials (e.g. bone, meat, plants, etc.) that were being processed by the occupants of this site.

Organization of Lithic Technology

Stone tools and debitage are often one of the most important artifact classes found on precontact sites due to their abundance, imperishability, and information content (Shott 1994:69; Morrow 1997:51-69). Recent studies of these types of artifacts using macro- and microscopic techniques have not only provided archaeologists with information about how these objects were manufactured (Callahan 1979) but have also contributed information about the site's function and duration of occupation (Odell 1996), the subsistence patterns of precontact populations (Kay 1996), and the accumulation and exchange of raw materials across a larger geographic region (Shott 1994). The reconnaissance survey and the site examination of the site produced lithic artifacts within the current project limits (Hartgen 2012). Mitigation of the Engel Farm Precontact Site is also expected to produce flakes and other bifacially worked tools that could be analyzed using general and microscopic techniques.

Throughout the last two decades archaeologists have become aware of the importance of modeling lithic production trajectories (e.g. Kintigh 1984; Magne 1985; Odell 1996). As a result, researchers have attempted to (1) understand the processes through which unmodified raw materials are transformed into finished tools and (2) establish a typology for the flakes generated by the production of stone tools. Previous work suggests that examination of both the finished tools and the debitage will help us to understand the types and range of tool-making activities that were occurring at the Engel Farm Precontact Site (Hartgen Archaeological Associates 2012). Staff from the New York State Museum will attempt to reconstruct the stages of manufacture (using both the finished tools themselves and the associated debitage) so that questions about settlement systems, group mobility, and stone tool production can be addressed.

The bifacially worked tools and a sample of debitage will undergo microscopic use-wear analysis. Use-wear analysis is expected to inform us about the range of the materials that were being processed (e.g. meat, bone, hide, shell, plants, etc.), the activities involved in the preparation of these materials (e.g. scraping, boring, crushing, etc.), and whether expedient tools were hafted. Although only one other lithic use-wear study exists for Albany County (Jones et. al. 1992; Versaggi et. al. 1993), several similar studies have been completed for sites in southern and eastern New York (e.g. Pagoulatos 1992) and will serve as an empirical model for this project.

METHODS

The horizontal and vertical extent of the site will need to be adequately investigated in order to address the research questions proposed for the data recovery project. The current project workscope indicates that field investigations will need to be completed in an area measuring approximately 3,700 m^2 (39,828 ft^2). 153 shovel test pits (STPs), and 20 1 m^2 units have already been excavated within the original boundaries of the Engel Farm site (Hartgen Archaeological Associates 2012). This data recovery plan proposes that a total of 10-20% of the Engel Farm site be excavated. As discussed below, we propose that a number of block units be excavated within the current project limits. Given the size and shape of the project area, it is possible that previously excavated units may fall within the boundaries of these block excavations thereby reducing the size of area that needs to undergo data recovery.

Mitigation of the Engel Farm Precontact site will occur in four stages or tiers with scheduled "breaks" in the work effort for the various consulting parties to discuss the result and further discuss whether the current mitigation plan needs to be revised.

Overview of Tier 1A Excavations

The initial excavations (or Tier 1A investigations) will involve a combined field strategy consisting of close interval shovel testing and coordinated field inspection by a professional geomorphologist. The methodology for both of these activities is provided below.

Tier 1A excavations will be through the completion of close interval testing. Hartgen Archaeological Associates completed Phase I and Phase II archaeological testing at the Engel Farm Site in 2011 and 2012. Within 153 shovel test pits and 20 1x1 meter (3.2 feet x 3.2 feet) square units, 127 artifacts were recovered. More than 98% of the artifacts were recovered in first soil layer at a depth of approximately 0-20 centimeters (0-7.87 inches). As indicated in Figures 1-3 of the site examination report (Hartgen Archaeological Associates 2012), this first (and sometimes second layer) consists of the plowzone. The remaining 2% of the artifacts were identified within the B-horizon soils at a depth of approximately 30-60 centimeters (11.81-23.62 inches) below the ground surface. The depth of almost of all of the shovel test pits excavated within the project limits is 50 and 60 centimeters (19.68-23.62 inches) below ground surface. Although the report is not specific as to the site type, its low density of artifacts and limited number of features argues for its use as a one time or repeated use lithic scatter.

We propose that 290 shovel test pits be excavated across the entire site area at an interval of 2.5 meters (8.2 feet) apart. The two and a half meter interval will be at the lower threshold for finding small sites. Each STP will be placed along a grid set-up across the site. Excavation of these units will allow archaeologists to reassess the distribution of artifacts across the site and develop a more refined plan for the placement of these units across the site so as to maximize the data potential of the units. Each of the shovel test pits will be excavated through the plow zone and into the B-horizon soils to a depth of approximately 1 meter (3.2 feet).

We estimate that the 290 STP will encompass approximately 108 square meters of the site and will be completed at the start of Tier 1A testing. We estimate it will take about two to three weeks for the shovel test pits to be excavated. Once complete, an assessment of the site boundaries and size should be completed to see if the size of the site can be reduced or refined based on the close interval shovel testing. Once complete the remaining 10% of the site area will be excavated using block excavations.

Coordination with a Geomorphologist

Prior to the start of Tier 1B Excavations, a geomorphological study will assess the following information:

- *Identify the likely soil sequences in project area based upon available geological and archaeological information.*
- *Establish the likelihood of deeply buried archaeological deposits based upon soil formation.*
- *Provide a terminal depth at which buried occupational surfaces are likely to occur.*
- *Provide recommendations for beneficial and documentary steps to be taken during archaeological excavations while excavation blocks are open and accessible to documentation*

Sites within the Pine Bush dating to the Early and Late Archaic have the potential to have a "stone zone" or layer of stone tools that have migrated downward in the soil over millennia and are now located below the plow zone. They may not appear in surface collections. The geomorphologist will be responsible for determining the depth of the stone zone across the site to determine the maximum depth of excavation needed in the test units.

The results of this testing will be summarized in a report due within 30 days of the start of the work. The report will provide a recommendation for the depth of testing needed along with associated maps and profiles describing the result of the work. This information will be shared with NYSDOT, FHWA, SHPO and the consulting parties to further refine the Tier IB, 2, and 3 Excavations as described below.

Overview of Tier 1B, 2, and 3 Excavations

Due to several parameters of the data recovery component of the project including site area, environmental conditions, soil types, and site loci with variable artifact concentrations, the New York State Historic Preservation Office, New York State Department of Transportation, Federal Highway Administration and consulting parties have proposed that the following tiered data recovery approach be employed. The tiered approach allows for consultative-based decision making at pre-established milestones in the mitigation process. Objectives and milestones for each tier are provided below. At the completion of the first two tiers, excavation results will be considered against a set of objective criteria. The objective criteria are derived directly for the accepted research questions to be employed for the data recovery component of the project. If the criteria are met, additional excavation will be completed. This process continues through the tiers until the criteria are not met and no further archaeological field work is determined to be warranted.

Excavations will be completed in excavation blocks no smaller than 2m x 5m (6.4 feet x 16.4 feet) in area, and preferably in blocks 2m x 10m (6.4 feet x 32.8 feet) or 3m x 10m (9.8 feet x 32 feet) in size. Block excavations are suitable for exposing large areas of a site and facilitating the identification of less-obvious ephemeral archaeological features. Excavation will be established on the same field grid established for the Phase I testing and Phase II excavations conducted by Hartgen Archaeological Associates (2012).

Tier 1B – It is recommended that Tier 1B consists of systematic block testing to equal the remainder of the 10% of horizontal extent of the Engel Farm Precontact Site, or approximately 262 m^2 (2820 ft^2) of excavation units.

The following milestones are established to objectively assess if the provided research questions can be answered based upon the Tier IB level of data recovery:

- Is the overall artifact density greater than 4.04 artifacts/ m^2 excavated?
- Are there any lithic artifacts attributable to Paleo-Indian occupation?
- Does the artifact assemblage include other artifact classes beyond lithics?
- Does the artifact assemblage include diagnostic artifacts both in:
    - Temporal and cultural affiliation?
    - Material origin?
- Are subsurface archaeological features identified?
- Is there any evidence of burials within the project limits?

If none of the above criteria are met, the data recovery will be considered complete and proceed with the regional synthesis component of the project. If any of the criteria above are met, the data recovery process would continue to Tier 2. Tier 2 would continue investigation to expand any unit(s) that meets the above criteria, by excavating an additional block test in the immediate vicinity.

If material (artifacts) recovered through the completion of Tier 1B excavations cannot aide in addressing the provided research questions, advancement to Tier IB excavation is likely not warranted. If analyses of material recovered through the completion of Tier IB can address the majority of these milestones, advancement to Tier 2 and continued data recovery is likely warranted. If analyses of material recovered through the completion of Tier

One B can address all of these milestones to conclusion, advancement to Tier Two and continued data recovery is likely warranted.

After completion of approximately 85% of Tier 1B Data Recovery, preliminary results will be summarized by the field archaeologists in an End-of-Field letter and prepared for presentation to the consulting parties. Preliminary recommendations will also be prepared for the consulting parties prior to review. If further field work is recommended, these steps will allow for the seamless continuation of ongoing field work.

Based upon recovered information, the determination should be made in consultation if Tier 2 excavations should proceed, and if so to determine the location and size of the block excavations. Information considered should include evaluation of lithics recovered (e.g., tool types, diagnostics, material, quantity), other artifact types recovered (e.g., ceramics, processed faunal remains), features identified, soil types, etc.

Tier 2 – If it is determined that Tier 2 excavations are warranted, it is recommended that these excavations include additional block-type and individual unit excavations to attain a higher percentage of coverage and at the same time help determine what methods, if any, would be needed to obtain sub-plow zone materials if present.

It is recommended that Tier 2 consists of systematic block testing to equal 5% of horizontal extent of the Engel Farm Precontact Archaeological Site, or approximately 185m^2 (1991 ft^2) of excavation units.

After completion of the Tier 2 Data recovery, preliminary results will be summarized by the field archaeologists and prepared for presentation to the consulting parties. Preliminary recommendations will also be prepared for the consulting parties prior to review. These preliminary results may be prepared before completion of all scheduled fieldwork for Tier 2 excavations. This will reduce delays between review of preliminary field results and the determination if Tier 3 excavations are warranted by meeting the established criteria.

Based upon recovered information, the determination should be made in consultation if Tier 3 excavations should proceed, and if so to determine the location and size of the block excavations. Information considered should include evaluation of lithics recovered (e.g., tool types, diagnostics, material, quantity), other artifact types recovered (e.g., ceramics, processed faunal remains), features identified, soil types, etc.

The following milestones are established to objectively assess if the provided research questions can be answered based upon the Tier 2 level of data recovery:

- Is the overall artifact density of the site greater than 4.04 artifacts/m^2 excavated?
- Are there any lithic artifacts attributable to Paleo-Indian occupation?
- Does the artifact assemblage include other artifact classes beyond lithics?
- Does the artifact assemblage include diagnostic artifacts both in:
    - Temporal and cultural affiliation?
    - Material origin?
- Are subsurface archaeological features identified?

If material (artifacts) recovered through the completion of Tier 2 cannot aid in addressing the provided research questions, advancement to Tier 3 is likely not warranted. If analyses of material recovered through the completion of Tier 2 can address the majority of these milestones, advancement to Tier 3 and continued data recovery is likely warranted.

Results should be reviewed by the consulting parties. Based upon recovered information, the determination should be made in consultation if Tier 3 excavations should proceed. Location and size of excavations should be reviewed in consultation prior to initiation of field work.

If further excavation is deemed warranted Tier 3 excavations should be designed to continue questions that have developed during field work of Tiers 1 and 2 for the remainder of the site. If a stone zone is present, Tier 3 should determine if a large enough sample has been obtained to ensure a legitimate interpretation of the site.

Tier 3-If it is determined that Tier 3 excavations are warranted, it is recommended that these excavations include additional block-type and individual unit excavations to attain a higher percentage of coverage and at the same time help determine what methods, if any, would be needed to obtain sub-plow zone materials if present.

It is recommended that Tier 3 consists of final archaeological testing to equal 5% of horizontal extent of the Engel Farm Precontact Archaeological Site, or approximately 185m^2 (1991 ft^2) of excavation units.

If further excavation is deemed warranted Tier 3 excavations should be designed to address/ continue questions that have developed during field work of Tiers 1 and 2 for the remainder of the site. Specifically, Tier 3 should remove the plow zone to look for all potential features with appropriate data gathering (sampling or full excavation of features). If a stone zone is present, Tier 3 should determine if a large enough sample has been obtained to ensure a legitimate interpretation of the site.

Excavation Procedures

Mitigation of the Engel Farm Site will involve the excavation of large block units within the project limits. Each of the units will be excavated 15 cm (6 ins.) into sterile non-artifact bearing soils using shovels and trowels. Each of these units will be excavated in 10 cm (4 ins.) arbitrary levels within natural soil horizons. Natural soil horizons will be identified based upon changes in the color and texture of the soils. Changes in the color of the soil will be determined using the *Munsell Soil Color Charts* (Munsell 1975) while changes in the texture of the soils will be determined based upon the quantity or frequency of sand, silt, and clay present in a particular layer. The soils that are removed from these units will be screened through ¼ inch (0.63 cm) mesh hardware cloth and the artifacts that are recovered from each of the units will be bagged by excavation layer or feature and will be returned to the Anthropology Laboratory at the New York State Museum to be washed and catalogued. A detailed description of the analysis of specific artifact classes is contained in the Artifact Analysis and Interpretation section of this report.

To insure that the excavation of these block excavations do not violate OSHA safety regulations, each of these units will be excavated in the center if they exceed a depth greater than 1 meter. Based upon the information collected during the site examination as well as similar excavations conducted within the Pine Bush, we currently anticipate that the deeper units that are excavated within the project limits may need to be excavated to a depth of 150 cm (59 ins) below the ground surface. If the deposits extend more than 150 cm (59 ins), then the walls of the unit may need to be shored by the contractor or NYSDOT to insure the safety of the field crew.

We currently estimate less than a dozen features to be identified within the project limits. Each of the features will be photographed and drawn in plan view prior to excavation. Once the feature is bisected and a cross-section of the feature is visible in the wall or floor of the unit, basic information (e.g. feature type, the size and shape of the feature, whether the feature contains artifacts) about the feature will be recorded on standard field forms.

Flotation samples will be collected from both features and living floor contexts. Flotation samples will be collected in standard 10 liter units with initial processing (floating and sorting) of the samples occurring at the New York State Museum. Once the floatation samples have been processed, the botanical remains will be sent to a professional archaeobotanist for identification. Analysis and identification of faunal remains will be completed "in-house" by staff from the New York State Museum. Recovery of floral and faunal remains from the site will not only contribute to our understanding of the subsistence strategies of these precontact populations but will also provide basic information about the types of plants and animals that were locally available.

Charcoal samples will also be collected from intact features for radiocarbon dating. We currently anticipate that charcoal samples will be sent to Beta Analytic, Inc. for analysis. Ideally, each of these samples will be derived from a different feature. However, if less than a dozen charcoal bearing features are identified, then multiple samples from important features may be submitted for analysis. If more than a dozen features are identified, then the principal investigator will devise a sampling strategy to insure that the various components of the site are adequately dated.

The north and east walls of the units will be scraped with trowels and photographed before the block excavations are backfilled. At this time, a geomorphologist (Dr. Julieann van Nest) from the New York State Museum will analyze the soils within the project limits. Soil samples will be collected from each of the major soil

horizons and will be sent to Pennsylvania State University Department of Agronomy for particle size (PSA) and organic carbon analysis (OCA). Once analyzed, this information will be correlated with the artifacts that are recovered during the field investigations so that research questions relating to the formation processes and age of the site can be addressed.

At the completion of the field investigations, it expected that between 10% and 20% of the current site area will have been excavated.

Project-specific Needs

Based upon guidelines agreed upon by the NYSHPO, the NYSDOT, the FHWA and the Consulting Parties, stripping of the site will not be permitted since previous testing demonstrated that artifacts are recoverable from the "plowzone" and that artifacts in the plowzone maintain a level of horizontal locational integrity, even if vertical displacement of artifacts within the plowzone has occurred as a result of past farming activity.

Additional restrictions as agreed upon by the NYSHPO, the NYSDOT, the FHWA, and the Consulting Parties, indicate that the use of heavy equipment will be prohibited within the site boundaries. Due to the nature of the sandy soils on site, the near surface deposits identified within the project limits by Hartgen Archaeological Associates (2012), the use of heavy equipment within the project limits has the potential to impact fragile remains.

A tribal monitor will be on site during all phases of archaeological field work.

ARTIFACT ANALYSIS AND INTERPRETATION

PRECONTACT ARTIFACT ANALYSIS AND INTERPRETATION

Processing and Artifact Analysis

All artifacts will be returned to the Anthropology Laboratory at the New York State Museum to be washed and catalogued. Precontact artifacts will be catalogued according to procedures developed by staff from the New York State Museum in Albany. During this project, precontact artifacts will be assigned to one of seven distinct material classes including chipped stone, ground stone, pottery, shell, bone, and other. Each of these material classes will be further broken down into distinct subcategories based upon their specific material form, surface treatment, and/or function (e.g. gray chert Vosburg projectile point). Approximate periods of use and/or information concerning the cultural tradition will be recorded when appropriate. The resulting catalogs will be entered into a relational data base management program (ACCESS) to facilitate subsequent analysis and accessioning of artifacts. With the exception of the samples that are submitted for radiocarbon analysis, all of the artifacts that are sent to consultants for analysis will be returned to the New York State Museum upon the completion of the analysis. Since the samples that are submitted for radiocarbon dating will be destroyed during analysis, documentation of the submitted samples (e.g. weight, number of specimens, etc.) will be completed prior to submission to Beta Analytic, Inc. for analysis. This information will be included in the final artifact catalog.

Artifacts are expected to be recovered from each of the test units and will allow questions related to the chronology, site formation processes, spatial organization and function, subsistence, and organization of lithic technology to be addressed. Questions related to the chronology of the site will be addressed using radiocarbon dating and stylistic analysis of artifacts. Stylistic analysis of artifacts will be completed by staff from the New York State Museum and will involve a comparison of artifacts against previously established artifact typologies. Projectile points will be assigned to a particular time period based upon established point types in Ritchie (1971). Diagnostic pottery may also be recovered if the site dates later than the Transitional Period (circa 1,500 B.C.). If pottery is recovered during the field investigations, assessment of the temporal affiliation of these artifacts will follow Ritchie and MacNeish (1949:97-124) and MacNeish (1952).

We currently anticipate that less than a dozen precontact features will be identified within the project limits. One charcoal sample (weighing approximately 15-30 g) will be collected from each of the features and will be sent to Beta-Analytic, Inc. of Coral Gables, Florida for radiocarbon dating. If more than a dozen features are identified within the project limits, a sampling strategy will be devised by the principal investigator so that a representative

sample of the site's deposits can be dated. If less than one dozen charcoal bearing features are identified, then multiple samples may be submitted for analysis.

A study of the site's geomorphology will be completed by a professional geomorphologist (Dr. Juliann van Nest) and is expected to produce data that will allow questions concerning the formation of the site to be addressed. The formation of the site will largely be reconstructed based upon a visual examination and mapping of the horizontal and vertical distribution of soils across the site. This work will be facilitated by the collection of soil samples for particle size analysis and organic carbon analysis. Particle size analysis will allow researchers to document the physical properties (e.g. lithology, stratigraphy, etc.) of the sediments (Brown 1997). Organic carbon analysis is expected to produce information about the development and modification of soils as a result of human activity (Brown 1997). We currently anticipate that 10 soil samples will be sent to the Department of Agronomy at Pennsylvania State University for analysis. Each of these samples will be collected from different soil layers and a complete discussion of the results of this work will be contained in the final report.

Given the large size and location of the excavation units across the site, researchers should be able to collect information that will allow issues relating to the development of the site to be documented and the age of individual soil layers to be estimated (Tankersley et. al. 1997). Information regarding the formation and age of these deposits may be further refined once the physical properties of the soils, artifacts, and radiocarbon dates from features are compared. Excavation of these large block excavations to a minimum depth of 150 cm (59 ins) should also be sufficient to allow questions regarding the stratified nature of the site to also be resolved.

Questions relating to the organization of lithic technology will be completed through a detailed analysis of the chipped and ground stone tools from the site. Processing and general cataloging of chipped stone tools will be completed using the criteria outlined in the reconnaissance survey and the site examination reports (Hartgen 2012). Initial analysis will involve cataloging these artifacts according to their functional or technological attributes (e.g. biface, projectile point, debitage, utilized flake, etc.), material type, and size. Flakes and pieces of lithic shatter will be further assigned to one of nine debitage categories (e.g. primary, secondary, tertiary, bifacial thinning, pressure, broken, or utilized flakes, general shatter, and block shatter, etc.) and a general edge wear inspection of these flakes will be completed using a binocular microscope.

Once general morphological analysis of these artifacts has been completed, a 10-20% sample of the lithic assemblage will be carried out by a professional lithic analysis for use-wear analysis. Use-wear analysis of these artifacts is expected to provide information that will allow archaeologists to determine how and under what conditions these expedient and curated tools were used. The sample that will be analyzed will be selected by the principal investigator and will include artifacts that exhibit evidence of polishes or striations on the artifact's surface as determined during general examination under low magnification. Detailed analysis of the striations (e.g. type, density, and distribution) and identification of polishes will be completed using a light microscope at a magnification of 100x to 500x. Identification of specific polishes will be determined based upon the comparison of artifacts with existing reference collections. When possible, the consultant will photograph prominent examples of polishes and striations so that a permanent record of the use-wear patterns of these artifacts can be created. Some of these photographs will be included in the final project report.

If recovered in the test units, ground or pecked stone tools will be catalogued according to their functional characteristics (e.g. hammerstone, pitted stone, netsinkers, etc.) and material type. Correlation of these artifacts with other artifacts from the site is not only expected to contribute to our understanding of the organization of lithic technology but is also expected to contribute to our understanding of the function and settlement organization of the site. The locations of fire-cracked rock will also be recorded on the project map. These artifacts are also expected to contribute to our understanding of the function and settlement organization of the site and will be counted and weighed before being discarded in the field.

The spatial organization and function of the site will be reconstructed through an analysis of the spatial patterning of artifacts and features across the site. As previously discussed, the reconnaissance survey and the site examination identified several artifact clusters within the boundaries of the project area. Several block units will be excavated within the boundaries of this artifact cluster and detailed information about the horizontal arrangement of artifacts and features within this cluster may result in the delineation of smaller activity areas across the site. Association of these activity areas with a particular function or activity will largely be determined based upon the

types of features and artifacts that are identified.

A detailed analysis of the vertical arrangement of artifacts in the various soil layers is also expected to contribute to our understanding of the stratified nature of the site as well as assist archaeologists in determining how many different precontact occupations are present at the site. If two or more occupation layers are identified, variations in the distribution of chipped stone tools, debitage, and other artifacts between these different occupation levels is expected to be informative and will enhance our understanding of changes in the spatial organization and use of this site.

Site function will be determined based upon the number and types of activities that can be assigned to a particular occupation layer. The discovery of features within the project limits (and the subsequent analysis of feature contents) will form the basis for our interpretation the site's function. Features will be assigned to different functional categories (e.g. hearths, storage pits, postmolds, etc.) based upon their contents, shape, size, and relationship to other site attributes (Moeller 1992). Features that fail to produce diagnostic artifacts but are identified in the same soil layer will be considered to be contemporaneous. Documentation of the location of these features across the site and in relationship to high concentrations of artifacts is important and will also contribute to our understanding of the spatial organization of the site.

Detailed analysis of the types of artifacts (e.g. ground and chipped stone tools) is also expected to contribute information about the function of the site. As previously discussed, the identification of specific polishes and striations on expedient and curated chipped stone tools will allow archaeologists to make inferences about the types of resources that were exploited, the processing/preparation of these resources, and the degree of mobility needed to acquire such resources.

Documentation of the subsistence economies of these hunter-gatherer populations will be determined based upon the recovery of floral and faunal remains from features and intact living floors. Flotation samples will be collected in 10 liter units and will be initially processed (or floated) by staff at the New York State Museum. Depending upon the types of carbonized remains that are recovered from heavy and light fractions, as many as 14 floral samples will be sent to a professional archaeobotanist for identification. The principal investigator will be responsible for the final selection of these samples so that a representative sample from feature and non-feature contexts can be obtained.

We expect that floral remains will be identified to the lowest possible taxonomic level. Identification of individual specimens will be determined based upon the size and shape of the seed. Comparisons with existing type botanical collections and/or known seed identification manuals may also be completed if unusual or unique specimens are recovered. A description of the frequency and types of seeds that are found will be included in the final report. This information will be integrated with other types of data (e.g. faunal remains, lithic polish, etc.) so that questions about seasonality and precontact subsistence can be addressed.

Analysis of faunal remains will be completed "in house" by staff from the New York State Museum. When possible NYSM staff will also collect more specific information about the remains including the species, When possible, additional information regarding the specific bone element and portion, bone fusion, and presence of specific markings (e.g. cut marks) will be recorded. State of bone fusion can provide information about the age of the animal at the time of death. Precontact butchering techniques and post depositional processes (especially those caused by rodent activity) can also be inferred from the markings that are present on the bone.

Interpretation

The data that are generated as a result of the field investigations will be integrated to provide an interpretation of the use of this precontact site. Integration of these types of data is expected to provide an insight into the use and settlement of this site. Use-wear analysis and identification of subsistence remains from features will not only provide critical information about the seasonality and function of the site but are also expected to provide information about the types of resources that were exploited and the range of activities that occurred at the site. A detailed understanding of the organization of lithic technology will also contribute to our understanding of possible lithic exchange networks and the movement of groups throughout the region. Finally, an assessment of the

physical characteristics of the soils and their relationship to artifacts will provide information about the chronology and the formation of the site.

An important aspect of this work will involve its interpretation in relationship to regional settlement and subsistence patterns. In the absence of an adequate settlement and subsistence model for Albany County, the data that are generated will be interpreted in relationship to Versaggi's hunter-gatherer settlement model (Versaggi 1987). Although this model was originally constructed for the adjacent Susquehanna Valley, use of the model in eastern Schoharie and Albany Counties (Jones et. al. 1992; Versaggi and McDonald 1991) suggests that it can provide a basic framework against which this small site can be interpreted. In the future, as new sites are identified in the Town of Colonie, this model can be refined so that the unique characteristics of these hunter-gather populations are reflected.

CURATION

All artifacts and project documentation (e.g. unit forms, field notes, project maps, etc.) will be curated at the New York State Museum in Albany. Given the number of artifacts that were produced during the site examination, mitigation of the Engel Farm site is expected to produce in excess of 400 artifacts and may require as much as 3 ft^3 for storage. These artifacts will be curated according to state and federal guidelines for the curation of archaeological remains as outlined in the *New York State Education Department Cultural Resource Survey Program Work Scope Specifications for Cultural Resource Investigations on New York State Department of Transportation Projects* (NYSED 2004: Appendix D). The New York State Museum meets state and federal guidelines for being a repository for these items.

REPORT

An end of field letter will be submitted to the New York State Department of Transportation (NYSDOT) and the New York State Historic Preservation Office (NYSHPO) within 5 days of the completion of the fieldwork. A final report will be submitted to NYSDOT for approval within one year of the completion of the fieldwork. This report will include specific sections devoted to the prehistory of the project area, the field and laboratory methods, excavation results, artifact analysis, and interpretation.

In addition, a separate Historic Context Report will be prepared and submitted as a separate volume with the final report. The Historic Context Report will review what is known about the environmental, historic, and settlement/subsistence occupation of the Pine Bush and its larger significance to sites located in Albany County, New York. The Historic Context Report will provide a summary of potential research questions that could be generated as well as a list of collections/projects/archaeological materials already known to exist for the Pine Bush.

After NYSDOT has approved the report, a copy of the report will be submitted to NYSHPO for comment. After both NYSHPO and NYSDOT have approved the final report, additional copies will be made available to SHPO for distribution to local and state repositories.

DISSEMINATION OF PROJECT RESULTS

The results of this project will be disseminated through public lectures and talks to community and civic groups, public programs (behind the scenes tours) as well as visits to the site during excavation. Conference presentations may also be generated for the New York State Archaeological Association and the New York Archaeological Council at the conclusion of the project. In addition, the Historic Context document that is developed for this project will be disseminated to the town and public offices to assist in planning efforts for future projects in the Town of Colonie.

SCHEDULE

This project is expected to take approximately 45 weeks to complete with specific tasks assigned as follows:

Project Set-up and Landowner Notification: It is expected to take one week to set-up the project and obtain permission to excavate from current landowner.

Fieldwork: Data Recovery excavation of the Engel Farm site is expected to take between 14 and 16 weeks to complete.

End-of-Field Letter: An end of field letter will be submitted by staff from the New York State Museum to the New York State Office of Parks, Recreation, and Historic Preservation, Region 1, and the NYS Environmental Science Bureau within 5 days of the completion of the fieldwork. This letter will contain a summary of the field investigations as well as a discussion of whether the work deviated from what was originally proposed within the Data Recovery Plan and why, and if enough information has been collected to address the research questions outlined in the data recovery plan. NYSDOT will be responsible for distributing the letter to other interested parties and the Federal Highway Administration as needed.

Laboratory Processing/Analysis: Artifact processing and cataloging is expected to take 6 weeks to complete with some of the work being completed while the fieldwork is on-going.

Data Recovery Report: A final report is expected to take approximately 20 weeks to produce. Production of the report on the Data Recovery Excavations may occur while the processing of artifacts is on-going.

Historic Context Report: A final report containing the historic context is expected to take approximately 6 months to complete. Production of the Historic Context Report may occur while the Data Recovery excavations are occurring.

KEY PERSONNEL

Principal Investigator: Dr. Christina Rieth will serve as the principal investigator for this project. The principal investigator is responsible for overseeing all aspects of the excavation and analysis as well as preparing the final report for the data recovery project.

Crew Chief: A crew chief will be assigned to this project as available. The crew chief will not only be responsible for supervising the field crew but will also be responsible for the daily excavation of the site in the principal investigator's absence.

Field Technicians: Field technicians will be assigned to this project as available. Field technicians will be responsible for carrying out all aspects of the excavation and general data recording during the field investigations.

Lab Technicians: The lab technicians will be assigned to this project as available. The lab technicians are responsible for the general processing and cataloging of artifacts. In addition, lab technicians may also assist the principal investigator in the analysis of artifacts and preparation of the final project report.

Lithic Analyst: Lithic Analysis will be completed by the staff from the New York State Museum and will be responsible for completing micro-wear analysis of flakes and chipped stone tools from the site.

Archaeobotanist: Nancy Asch Sidell will be hired as a consultant for this project and will be responsible for the identification of botanical remains recovered from the site.

Geomorphologist: Dr. Julieann van Nest of the New York State Museum will serve as the geomorphologist for this project and will be responsible for completing a geoarchaeological study of the site.

NEW YORK STATE OFFICE OF PARKS, RECREATION, AND HISTORIC PRESERVATION HUMAN REMAINS POLICY

In the event that human remains are encountered at the Engel Farm site, the following guidelines will be followed:

- At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

- Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

- The county coroner/medical examiner, local law enforcement, the SHPO, the appropriate Indian Nations and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archaeological.

- If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance, until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of the SHPO and Indian Nations. The involved agency will consult SHPO and appropriate Indian Nations to develop a plan of action that is consistent with the Native Americans Graves Protection and Repatriation Act (NAGPRA) guidance.

- If human remains are determined to be non-Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Please note that avoidance is the preferred choice of the SHPO. Consultation with the SHPO and other appropriate parties will be required to determine a plan of action.

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Appendix 3.
NYSDOT Procedures in the
Event of Inadvertent Discovery of Human Remains During Construction

NYSDOT PROCEDURES
IN THE EVENT OF INADVERTENT DISCOVERY OF HUMAN REMAINS DURING CONSTRUCTION

1. If a burial site, human remains, or bones thought to be human remains, are encountered during construction for a DOT undertaking, the work will be stopped immediately and rescheduled to avoid disturbing the area. The remains will be left in place and protected from further damage.

2. In accordance with NYSDOT Updated Standard Specifications 107-01.D, *Archaeological Salvage*, the Engineer-in-Charge (EIC) will, through proper channels, notify the Director of the Construction Division who will notify the DOT Office of Environment (OOE) and the Regional Cultural Resources Coordinator (CRC). The EIC will report the discovery of human remains to the local police, and the county coroner having jurisdiction, or to the medical examiner, and will arrange immediate inspection of the site[1].

3. If the site is determined to be part of a criminal investigation, the police will notify the EIC when work in the area may resume.

4. If determined that the remains are not a police issue, the CRC will notify the Federal Highway Administration (FHWA), the Office of Parks, Recreation and Historic Preservation/ State Historic Preservation Office (OPRHP/SHPO), appropriate Indian tribal contacts, and archaeologists[2], and arrange site visits accordingly. Work will be temporarily suspended in the area, and measures will be taken to secure the burial site and protect the remains from disturbance.

5. The OOE will arrange for professional skeletal analysis to identify the remains as human, if necessary. NYSDOT will invite designated Indian tribal representative(s) to participate in the consultation process. Representatives will be determined on the basis of established Department contacts and identified areas of interest for tribal nations.

6. The OOE, in consultation with the OPRHP/SHPO, Indian tribes and other identified consulting parties, will arrange for an archeologist to establish horizontal and vertical extent of the burial(s) and assess measures for avoiding the human remains if possible.

7. Any new location or alignment developed to avoid the burial(s) will be subject to archaeological investigation, and the results will be provided to the OPRHP/SHPO, Indian tribes, and other consulting parties as appropriate for comment before the project proceeds in this area.

8. If the alignment is unchanged, a plan will be developed in coordination with FHWA, SHPO, Indian tribes, and other consulting parties as appropriate to preserve the site and protect the burial(s) before the project proceeds in this area.

9. If removal and reburial of the remains is necessary, it will be undertaken in a manner agreed to by all involved parties. Temporary disposition of the remains until reburial will be determined in consultation with the Indian tribes and other consulting parties as appropriate.

10. Any actions relating to the treatment, disposition, removal, or reburial of human remains will comply with all applicable State and Federal laws and regulations.

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[1] In NYC, the discovery must be reported to the office of the chief medical examiner and to a police officer. In Erie County, the discovery must be reported to the medical director.

[2] Assuming archaeologists are not already on-site, monitoring construction activities. In most cases, professional bioarchaeologists on staff at the NYS Museum, Public Archaeology Facility at Binghamton, or State University at Buffalo will be called in for the identification.

Appendix 4.
Stockbridge-Munsee Community Band of Mohican Indians
"Policy for Treatment and Disposition of Human Remains and Cultural Items That May be Discovered Inadvertently During Planned Activities"

Appendix 4

Stockbridge-Munsee Community
Band of Mohican Indians
Policy for
Treatment and Disposition of Human Remains and Cultural Items
That May be Discovered Inadvertently During Planned Activities

Purpose

The purpose of this policy is to describe the procedures that will be followed by all federal agencies, in the event there is an inadvertent discovery of human remains, that are identified as Stockbridge-Munsee (Mohican).

Treatment and Disposition of Human Remains and Cultural Items

1. The federal agency shall contact the Stockbridge-Munsee President's office (715) 793-4111 or Stockbridge-Munsee Historic Preservation Office (715) 793-3970, after hours (715) 304-8155, as soon as possible, but no later than three (3) days, after the discovery of Stockbridge-Munsee Mohican remains

2. Place tobacco with the remains and funeral objects

3. Cover remains and funeral objects with a natural fiber cloth such as cotton or muslin when possible.

4. No photographs to be taken

5. The preferred treatment of inadvertently discovered human remains and cultural items is to leave human remains and cultural items in-situ and protect them from further disturbance.

6. Non-destructive "in-field" documentation of the remains and cultural items will be carried out in consultation with the Tribe, who may stipulate the appropriateness of certain methods of documentation.

7. If the remains and cultural items are left in-situ, no disposition takes place and the requirements of 43 CFR 10 Section 10.4-10.6 will have been fulfilled.

8. The specific locations of discovery shall be withheld from disclosure (with the exception of local law officials and tribal officials as described above) and protected to the fullest extent by federal law

9. If remains and funeral objects are to be removed from the site consultation will begin between the Stockbridge-Munsee Tribe and the federal agency.

Stockbridge-Munsee Community

Tribal Council
PO Box 70
Bowler, WI 54416

Telephone: (715)793-4355
FAX: (715)793-1307

Patricia Millington
Area Engineer
Federal Highway Administration
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207

August 19, 2014

RE: MOA for Interstate 87 Exit 3/4, Albany County NY, PIN 1721.51

Dear Ms. Millington:

We are sending this letter to accompany our Concurring Party signature page to the Memorandum of Agreement (MOA) for the above-referenced project. We wish to provide clarification for our decision to sign.

To be clear, our signature does not indicate that we believe that the Section 106 process for this project has been successful in respecting and incorporating our cultural perspective.

As we have stated throughout the Section 106 process, we have felt that the NYSDOT outreach to us as a Tribal Nation has primarily been conducted as mere notification, not as genuine consultation that takes into full account our cultural viewpoints of the site significance.

Nevertheless, we are signing because—and only because— it is the only mechanism to continue our involvement in consulting on the Data Recovery Plan, including the tribal monitoring and the tiered approach, and providing input on the plans for the aesthetic treatment.

We request that this letter be included with the MOA records to clarify our position.

Respectfully,

Wally Miller
Tribal President

Interstate 87 (I-87) Exit 4 Access Improvements
PIN 1721.51.121
Agency Correspondence

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
New York.FHWA@dot.gov

January 16, 2014

In Reply Refer To:
HED-NY

Ms. Naja Duvall-Gabriel
Historic Preservation Specialist, Office of Planning and Review
Advisory Council on Historic Preservation
The Old Post Office Building, Suite 809
1100 Pennsylvania Avenue, NW
Washington, DC 20004

Subject: PIN 1721.51 – Interstate 87, Exit 3/4 Airport Access Improvements, Albany County: Section 106 Consultation

Dear Ms. Duvall-Gabriel:

In accordance with the provisions of 36 Code of Federal Regulations (CFR) 800.6, we advise you that New York State Department of Transportation (NYSDOT) determined that this undertaking will have an *Adverse Effect* on the National Register eligible Engel Farm Precontact Archaeological Site. The New York State Historic Preservation Officer is in agreement with this determination via their December 9, 2013 letter.

In accordance with article 800.6(a)(1), we are enclosing the documentation specified in article 800.11(e) which includes the letter from the New York State Historic Preservation Office's concurring with the *Adverse Effect* finding, the Finding Documentation, project location maps, and project location photos. Please notify us whether the Council will participate in consultation within 15 days.

If you have any questions, please contact me at (518) 431-8882.

Sincerely,

Omar Elkassed
Area Engineer

Enclosure: December 4, 2013 Packet

cc:
T. Thorne, RCRC, NYSDOT Region 1
A. Becker, NYSDOT Region 1 RCRC
J. Masi, NYSDOT Region 1 PM
A. Trichilo, NYSDOT Region 1 Design
T. Kligerman, NYSDOT Main Office DQAB
M. Santangelo, NYSDOT Main Office, State CRS
P. Dunleavy, NYSDOT Main Office, Environment

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Bldg.
Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

January 16, 2014

In Reply Refer To:
HED-NY

Ms. Tanya Thorne
Regional Cultural Resource Coordinator, Region 1
New York State Department of Transportation
50 Wolf Road
Albany, NY 12232

Subject: PIN 1721.51 – Interstate 87, Exit 3/4 Airport Access Improvements, Albany County: Section 106 Concurrence

Dear Ms. Thorne:

Please reference your letter dated December 4, 2013 requesting our review and confirmation that the referenced project will have an *Adverse Effect* on the National Register eligible Engel Farm Precontact Archaeological Site. We have reviewed the submitted finding documentation, the State Historic Preservation Office's (SHPO) concurrence letter dated December 9, 2013 and supporting documentation.

Based on our review we concur with SHPO that this project will have an *Adverse Effect* on the National Register eligible Engel Farm Precontact Archaeological Site. We have also notified the Advisory Council on Historic Preservation by letter dated January 16 in which NYSDOT was carbon copied.

If you have any questions or concerns, please contact me at 518-431-8882.

Sincerely,

Omar Elkassed
Area Engineer

cc:
A. Becker, NYSDOT Region 1 RCRC
J. Masi, NYSDOT Region 1 PM
A. Trichilo, NYSDOT Region 1 Design
T. Kligerman, NYSDOT Main Office DQAB
M. Santangelo, NYSDOT Main Office, State CRS
P. Dunleavy, NYSDOT Main Office, Environment

Elkassed, Omar (FHWA)

From: Millington, Tricia (FHWA)
Sent: Thursday, January 16, 2014 1:29 PM
To: Elkassed, Omar (FHWA)
Subject: PIN 1721.51.121 Interstate 87, Exit 3/4

Omar,

The following documents the recent Section 106 consultation with the Saint Regis Mohawk Tribe, the Stockbridge-Munsee Community Band of Mohican Indians and the Delaware Tribe that has occurred for PIN 1721.51.121 Interstate 87, Exit 3/4:

The Findings Document for this project was shared with all three Tribal Nations in December 2013

Prior to making the finding of an Adverse Effect, the NY Division office reached out via phone to all three Tribal Nations to ensure they received the documentation to consult with them on this project.

January 7, 2014 – Phone call to Mr. Arnold Printup, the Saint Regis Mohawk Tribal Historic Preservation Officer
January 7, 2014 – Phone call to Dr. Brice Obermeyer, the Delaware Tribe Historic Preservation Officer
January 7, 2014 – Phone call to Ms. Sherry White, the Stockbridge-Munsee Community Band of Mohican Indians Tribal Historic Preservation Officer

The discussion included the understanding that the preferred alternative is the flyover alternative, which will be further studied in the Environmental Impact Statement. Based upon the information that the NY Division has received, it was shared that the Division believes this alternative will have an "Adverse Effect" upon historic properties. We also discussed that NYSDOT is planning to hold a meeting with NYSHPO, the Saint Regis Mohawk Tribe, the Delaware Tribe and the Stockbridge Munsee Community Band of Mohican Indians to discuss the Data Recovery Plan. Based upon this meeting a draft Memorandum of Agreement and a draft Data Recovery Plan for the finding of the "Adverse Effect" will be developed. We shared that this meeting to be held within the next two months and indicated that the Division would like to proceed with the "Adverse Effect" finding, with the Tribes' understanding and agreement with the plan to address the mitigation of such effects in the near future.

Responses:
Mr. Arnold Printup agreed verbally with the finding of an adverse effect and would like to meet to discuss the data recovery plan. Mr. Printup indicated he would follow up the conversation with a written response, but that has not been received to date. A follow up email from the Division to Mr. Printup was sent on January 13, 2014. However, with the verbal discussion and this documentation, we believe we have done our due diligence in consulting with the Saint Regis Mohawk and have a full understanding that they are in agreement with the plan to proceed.

Dr. Brice Obermeyer agreed verbally and followed up with an email that stated. "The Delaware Tribe agrees with the finding of adverse effect and is of the understanding that the project will proceed after mitigation of the adverse effects are considered."

Ms. Sherry White indicated that she had just returned to the office due to personal family leave and needed time to read the project information. A follow up email was sent to Ms. White on January 13, 2014, along with a phone call from the Division to Ms. White on January 15, 2014. During the phone conversation, Ms. White indicated that she agreed with the finding of an adverse effect and expressed concerns with the mitigation plans. Ms. White indicated that she was interested in traveling to NY to discuss the data recovery plans with FHWA, NYSDOT, NYSHPO and the Tribes. The phone conversation was followed up in writing via an email that stated, "The Mohican Tribe agrees that the

project will have an adverse effect on sites/site of cultural interest to our tribe." The email further described the Tribes concerns about the plans for data recovery and requested a meeting to discuss mitigation/data recovery for the site.

Respectfully submitted,
Tricia Millington

Tricia Millington, RLA
Federal Highway Administration
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
(518) 431-8844 Fax: (518) 431-4121

Tricia.Millington@dot.gov
U.S. Department of Transportation

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

December 09, 2013

Tanya J. Thorne
NYSDOT - Region 1
50 Wolf Road (POD 2-3)
Albany, New York 12232

Re: FHWA, DOT
Revised Finding Documentation: PIN 1721.51.121 Interstate 87, Exit 3/4 Airport Access Improvements, Town of Colonie, Albany County, State of New York
and
Phase IB Archeological Field Reconnaissance: Interstate 87 (I-87) Exit 4 Access Improvements, PIN 1721.51.121, Person Property Wetland Mitigation, Sunset Boulevard, Town of Colonie, Albany County, New York (HAA# 3266-33)
07PR05536

Dear Ms. Thorne:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted documents *Revised Finding Documentation: PIN 1721.51.121 Interstate 87, Exit 3/4 Airport Access Improvements, Town of Colonie, Albany County, State of New York*, and the *Phase IB Archeological Field Reconnaissance: Interstate 87 (I-87) Exit 4 Access Improvements, PIN 1721.51.121, Person Property Wetland Mitigation, Sunset Boulevard, Town of Colonie, Albany County, New York (HAA# 3266-33)* received by our office December 9, 2013. We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966, *as amended*, and its implementing regulations 36 CFR Part 800 – Protection of Historic Properties.

Results of the Phase IB archaeological testing indicate that fill was encountered in tests nearest the commercial complex to the south, and that natural soils were encountered in beneath the fill in most of the tests. A historic dump identified contained largely items from the early to mid-20th century. No contexts or source for the material in the dump was identified and it was determined that no research potential exists for the dump. No further testing is recommended for the dump site.

The Flyover Alternative proposes the construction of ramps supported by embankment fill in the location of the Engel Farm Precontact Archaeological Site. This will cause an unavoidable impact to the Site due to site disturbance from construction. The Flyover Alternative avoids impact to the Wolf-Kemp Cemetery Historic Site.

The New York State Department of Transportation has applied the Criteria of Effect for this project and finds that the Flyover Alternative will have an *Adverse Effect* [as per 36 CFR Sec. 800.5(d)(2)] on the Engel Farm Precontact Site, an archaeological site determined eligible for listing on the National Register of Historic Places.

Based upon our review of the submitted information and consultation with your office, our office concurs with the finding of *Adverse Effect* for the proposed undertaking. Our office looks forward to continued consultation with you to develop appropriate mitigation measures for the documented adverse effect. This may include data recovery and a public outreach component. Furthermore, it is our understanding that a Memorandum of Agreement is in development to resolve the adverse effects. We also look forward to working with you to complete this document so as to complete the Section 106 consultation process.

Should you have any questions, please feel free to contact me directly at (518) 237-8643, Extension 3288 or via electronic mail at Brian.Yates@oprhp.state.ny.us. If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Wm. Brian Yates
Historic Preservation Specialist

cc: Jonathan McDade, FHWA New York Division *(email only)*
Omar Elkassed, FHWA New York Division *(email only)*
Peter Dunleavy. NYSDOT Office of the Environment (*email only*)
Mary Santangelo, NYSDOT Office of the Environment (*email only*)

MEMORANDUM
Department of Transportation

TO: John Masi, Project Manager Highway Design, Region One
Angelo Trichilo, Design Supervisor, Region One

FROM: Michael Novak, Regional Geotechnical Engineer, Region One

SUBJECT: PIN 1721.51
I-87 Exit 3/4
Albany County
Site Evaluation of Proposed Embankment Locations for Ramps A and C

DATE: September 18, 2013

As requested on September 17, 2013, Lew Ballantyne and I evaluated the proposed subject embankment locations. After review, I have the following geotechnical comments and recommendations:

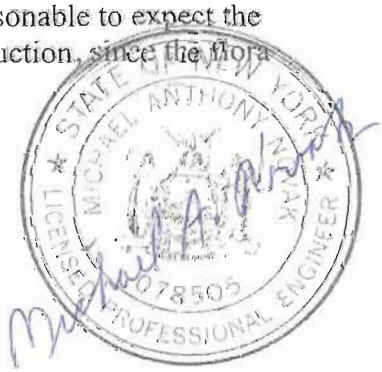
+ The subsurface exploration borings progressed to date indicate a majority of the material is Silty SAND with a water table within the top few feet of the soil borings.

+ The archeological area consists of the same flora as the location of the last two soil borings (Sta. RA 34+15.00, 15ft right and Sta. RC 20+45, 3.0 ft Left) (see pictures).

+ It is standard engineering practice to remove organic and flora material before building an embankment. An embankment built on top of organic and flora material continuously settles over time. Since the subsurface exploration borings indicate no organic material with depth, I recommend scarifying and removal of the flora within the limits of the proposed embankment. I estimate that this could disturb the top 1 foot of original ground surface.

+ During our site evaluation, we noticed rutting up to 10 inches deep (see pictures) from the drill rig moving from one drill hole to another. It is reasonable to expect the same rutting would occur in the archeological area during construction, since the flora is the same.

If you have any questions, contact Michael Novak at 782-7233.



MAN:

Attachment

Cc: File